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Introduction

The Traffic Control Plans and associated text depicted in this Manual conform to the Federal Department of Transportation (D.O.T.) and Chapter 5 of the State of California Manual of Traffic Controls.

The criteria of this Manual are intended to primarily apply to urban areas. Urban street traffic is typically characterized by relatively low speeds, wide ranges in traffic volume, narrower roadway lanes, frequent intersections, significant pedestrian traffic, bicyclists and frequent roadside obstacles.

This manual provides the basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. Traffic control includes safe protection for the public, motorist, cyclist, pedestrian and worker. It is the responsibility of the contractor or organization performing work on, or adjacent to, a roadway to install and maintain such devices which are necessary to provide safe passage for the traveling public through the work area and for the safety of the workers.

This text is intended to supplement the standards established by the Federal Department of Transportation and Caltrans by establishing construction area traffic control guidelines for work within the City of San Jose. The criteria for the position, location, manner of installation, and the use of such signs, lights and devices are furnished solely for the purpose of information and guidance.

No one set of signs or other traffic control devices can typically satisfy all conditions for a given project. At the same time, defining detailed standards that would be adequate to cover all applications is simply not practical. This Manual displays several diagrams that depict common applications of standard temporary traffic control devices and applications. The traffic control selected for each situation shall be based on street type, traffic conditions, duration of operation, physical constraints, and the nearness of the workspace to traffic.

Objectives

To Provide:

- a) Safety protection for the public, motorist, cyclist, and pedestrian.
- b) Safety protection for construction workers, contractors, and equipment.
- c) Safe access for police, fire, and rescue vehicles.
- d) Guidance for safe effective work areas, to warn, control, protect, and expedite vehicular and pedestrian traffic.
- e) The basic principles that govern the design and usage of warning signs, lights and devices placed upon the public roadway.

Work Area Planning

Work should be planned in advance to permit employees and equipment to safely move into position, accomplish the job in a safe and skillful manner and move out of the area as soon as possible upon completion.

During any time the normal function of a roadway is suspended, temporary traffic control planning must provide for continuity of function (movement of traffic, pedestrians, bicyclists, transit operations, and access to property/utilities). The location where the normal function of the roadway is suspended is defined as the workspace. The workspace is that portion of the roadway closed to traffic and set aside for workers, equipment, and material. Sometimes there may be several workspaces within the project limits. Each workspace should be signed to inform drivers of what to expect.

Effective temporary traffic control enhances traffic operations and efficiency, regardless of whether street construction, maintenance, utility work, or roadway incidents are taking place in the workspace. Effective temporary traffic control must provide for the workers, road users, and pedestrians. At the same time, it must provide for the efficient completion of whatever activity suspended normal use of the roadway.

It is essential that concern for traffic accidents, worker safety and efficiency of traffic movement form an integral element of every temporary traffic control zone, from planning through completion of work activity. Simultaneously, the control selected must permit efficient maintenance / construction of roadways and roadway appurtenances.

Where physical conditions are such that hills, curves, buildings, vegetation, etc. reduce or obscure driver view, additional precautions become necessary. On-coming traffic should be

alerted to potential hazards by the suitable use of signs, flaggers barricades, flags, flashers, or traffic cones, in any combination that will give adequate advance warning and that will channel traffic according to the predetermined plan.

Under conditions of severely restricted visibility, a second "Road Work Ahead" sign, spaced in accordance with the speed/distance table, is advised. Drivers must be able to see warning signs far enough in advance to slow their vehicles to a safe speed.

The employee in charge must review and advise the workers on how to set up, maintain and remove the traffic control devices.

- In planning for the safety of all involved, consider the traveling public and remember:
- They must be warned sufficiently in advance to allow time to think and react.
- ♦ They must have time to regulate their speed, to allow them to pass through the guidance pattern with safety and ensure an even flow of traffic.
- ◆ The need for decision making must be reduced to a minimum. This can be done with a planned guidance pattern.

A checklist of items to be considered in planning should include the following:

- a) Estimated time required to complete the job in order to determine short-term or long-range operations.
- b) Volume and speed of traffic.
- c) Changes in traffic conditions during the operation.
- d) Local ordinances and permit requirements.
- e) Set up shall always start with the advance warning sign and work back to the jobsite.
- f) Determination of the number and types of safety devices, cones/delineators, signs, flags, flashers, barricades, flashing arrow signs, etc., required for the job.
- g) Flaggers, while setting up protection and during the job operation, if required.
- h) Effective utilization of utility vehicles for maximum protection.
- i) When lanes are closed, place the lane.

Warning and Construction Signs, Guards and Barriers

Approved warning signs, barricades, cones/delineators, guards, flags, flares, reflectors, and lights at night, shall be installed and properly maintained wherever hazards exist due to moving or stationary vehicles, open excavations, construction and maintenance operations and similar work.

Warning equipment shall be placed so as to provide adequate notice to motorists, cyclists, or pedestrians that they are approaching an excavation, obstruction, or other hazard.

Warning signs shall be removed as soon as the excavation, obstruction, or other hazard is cleared.

Channeling Devices

Channeling devices are elements in a total system of traffic control devices for use in construction and maintenance operations. These elements shall be preceded by a subsystem of warning devices that are adequate in size, number, and placement for the type of roadway on which the work is to take place.

Approved channelizing devices shall be used for the following purposes:

- To channel and divert traffic in advance of work zones.
- ♦ To define traffic lanes through the work zone.
- To define a change in the position of the lanes around the work zones.
- To define curves and the edges of the roadway on detours.
- ♦ To separate opposing lanes of traffic.

Correctly positioned cones/delineators provide an excellent guidance path. Improperly positioned cones/delineators only confuse drivers.

Barricades

The function of barricades is to separate the motorist from objects or unusual situations created by construction or maintenance activities in or near the traveled way. Barricades should <u>not</u> be used to guide motorists through the transition or work zones.

The barricade would not be used where a collision with the barricade would be more severe than a collision with the object being separated. At such locations, cones/delineators, or other less rigid devices should be used.

Barricade design:

Barricades for vehicular traffic shall be of three types: Type I, Type II, and Type III.

Markings for barricade rails shall be alternate orange and white stripes sloping downward at an angle of 45 degrees. The entire area of orange and white shall be effectively reflectorized. The predominant color for other barricade components shall be white.

Flashing Arrow Signs (FAS)

Type	Min. Size	Min Number of Panel	Min Legibility
		Lamps	Distance
A	24" x 48"	12	½ mile
II	36" x 72"	13	¾ mile
I	48" x 96"	15	1 mile

Night Operations

In order to provide enhanced warning and safety during twilight and night operations, the following steps should be adhered to:

When the work area is to be illuminated by use of floodlights, the light placement shall be such that the light beams are not hazardous to oncoming traffic.

All warning signs and cones/delineators shall be illuminated or reflectorized.

Flashing or rotating amber lights on vehicles may be used for additional work area protection.

Flaggers must be illuminated, visible to approaching traffic, and wear approved reflectorized garments.

Note: Flares and red emergency reflectors are strictly for emergency situations and must not be used as substitutes for standard work area warning devices. Flares shall not be used in combustible or high fire areas.

Use of Flaggers

Flaggers will be provided where approved signs or barricades do not provide adequate traffic control.

The proper use of flaggers, where circumstances warrant, will not only provide for vehicular traffic, but will also provide protection for employees working in the immediate area to divert the normal flow of traffic.

Flaggers are required as follows:

- a) At all locations where warning and control devices cannot adequately control the moving traffic.
- b) Where the job requires the use of one lane for two directions of traffic. (One flagger is required for each direction of traffic.)

More information at: http://www.dot.ca.gov/hq/construc/flagging.html

Placement and equipment requirements:

Flaggers shall be logically placed in relation to the equipment or operation so as to give adequate warning, and shall be stationed approximately 100 feet (30.5m) ahead of the possible impact point.

Flaggers shall wear approved warning garments. Reflectorized vests shall be used when flagging at night and the flaggers must be illuminated and visible to approaching traffic.

The warning sign, C-9 or C-9a, "Flagman Ahead" shall be placed ahead of the flagger. The distance between the sign and the flagger should be based on the average traffic speed, allowing approximately 100 feet (30.5m) for each ten miles per hour.

Flaggers shall be trained in the proper fundamentals of flagging traffic before being assigned as a flagger.

Flaggers who are not in visual contact with each other shall use radios or other positive communications.

Flagging procedures and all signs and equipment shall comply with the Federal D.O.T. and the State of California Manual of Traffic Controls for Construction and Maintenance Work Zones.

Flagging Procedures for Traffic Control

Flagging procedures for traffic control shall be in accordance with the following:

Where flaggers are required, the Stop/Slow paddle shall be used.

To Stop Traffic

Hold the STOP paddle in a stationary position with the arm extended horizontally away from the body. The free arm should be raised with palm facing approaching traffic.

To Alert or Slow Traffic

Hold the SLOW paddle in a stationary position with the arm extended horizontally away from the body. The free arm should be raised and lowered slowly with the palm down.

To Direct Traffic to proceed

Hold SLOW paddle at arm's length and motion with the free hand for traffic to proceed.

Work Area at End of Work Period

Before leaving a work area, it is necessary that approved warning devices be placed to protect motorists and pedestrians.

Ensure that the area is properly barricaded and that flashing lights, where required, are functioning satisfactorily.

Make sure that equipment is secured and that the work area is left orderly.

Make sure that the area and adjacent areas are swept clean and are free of debris.

Pedestrian Considerations

When the work area encroaches upon a sidewalk, walkway, or crosswalk area, adequate protection for the safety of pedestrians must be provided. Barricades and cones/delineators may be used advantageously in defining pedestrian walkways. Protect against any condition, which would create a tripping, falling or slipping hazard. A minimum walkway width of 48" (122cm) must be maintained at all times for safe passage through the work area.

When overhead work is being performed, pedestrian passage area below must be rerouted or protected.

There are three threshold considerations in planning for pedestrians in temporary traffic control zones on highways and streets:

- 1) Pedestrians shall not be led into direct conflicts with work site vehicles, equipment, or operations.
- 2) Pedestrians shall not be led into direct conflicts with mainline traffic moving through or around the work site.
- 3) Pedestrians shall be provided with a convenient travel path that replicates as nearly as possible the most desirable characteristics of sidewalks or footpaths.

In accommodating the needs of pedestrians at work sites, it should always be remembered that the range of pedestrians that can be expected is very wide, including the visually impaired, the hearing impaired, and those with walking disabilities. All pedestrians need protection from potential injury and should be provided a smooth, clearly delineated travel path.

Every effort shall be made to separate pedestrian movement from both work site activity and adjacent traffic. Whenever possible, signing will be used to direct pedestrians to street crossings in advance of an encounter with a temporary traffic control zone. Signs shall be placed at intersections so that pedestrians are not confronted with mid-block work sites that will induce them to skirt the temporary traffic control zone or make a mid-block crossing. It must be recognized that pedestrians will only infrequently retrace their steps to make a crossing. Consequently, ample advance notification of sidewalk closures is critically important. Refer to sheets 28 and 30 of this Manual. See Caltrans Traffic Manual, Chapter 5, Section 5-07.3 for typical traffic control device usage and techniques for pedestrian movement through work zones.

When pedestrian movement through or around a work site is necessary, the aim of the engineer is to provide a separate, footpath without abrupt changes in grade or terrain. Judicious use of special warning and control devices to warn motorists is helpful for certain difficult work zone situations. These include rumble strips, changeable message signs, hazard identification beacons, flags, and warning lights. Whenever it is feasible, closing off the work site from pedestrian intrusions is preferable to channelizing pedestrian traffic along the site solely with temporary traffic control devices such as cones, portable delineators, barricades, or drums. If the possibility of vehicle impact is very low, chain link or other suitable fencing, placed well away from traffic, is acceptable. Solid fencing with plywood, however, can create sight distance restrictions at intersections and at work site access cuts. Care must be taken not to create fenced areas that are

vulnerable to splintering or fragmentation by vehicle impacts. Similarly, temporary traffic control devices used to delineate a temporary traffic control zone pedestrian walkway must be lightweight and, when struck, present a minimum threat to pedestrians, workers, and impacting vehicles. Only minimally necessary ballasting with lightweight materials should be used with these devices.

Movement by work vehicles and equipment across designated pedestrian paths should be minimized and should be controlled by flaggers. Cuts into work zones across pedestrian walkways should be kept to a minimum, because they often create unacceptable changes in grade and rough or muddy terrain. Pedestrians cannot be expected to traverse these areas willingly. They will tend to avoid the cuts by attempting non-intersection crossings.

At work sites of significant duration, especially in urban areas with high pedestrian volumes, and where falling debris is a concern (such as work on overhead structures), a canopied walkway is frequently needed to protect pedestrians from falling debris. These covered walkways should be sturdily constructed and adequately lit for nighttime use.

In places where pedestrians are judged especially vulnerable to impact by errant vehicles, all foot traffic should be separated and protected by longitudinal barrier systems. Where a barrier is clearly needed, it should have sufficient strength and low deflection characteristics, to keep vehicles from intruding into the pedestrian space. Further, short, non-continuous segments of longitudinal systems, such as concrete barriers, must be avoided because they nullify the containment and redirective capabilities of the design, increase the potential for serious injury to both vehicle occupants and pedestrians, and encourage the presence of blunt, leading ends. All upstream leading ends that are present shall be appropriately flared or protected with properly installed and maintained impact attenuators. With regard to concrete barriers in particular, it is very important to ensure that adjacent segments are properly joined to effect the overall strength required for the system to perform properly.

It has been determined through study and experience that vertical curbs cannot prevent vehicle intrusions into work zones. As a consequence, normal vertical curbing is not a satisfactory substitute for positive barriers when these are clearly needed. Similarly, contractor-constructed wooden railings, chain-link fencing with horizontal pipe runs, and similar systems placed directly adjacent to vehicle traffic are not acceptable substitutes for crashworthy positive barriers. In many instances, temporary positive barriers may be necessary to prevent pedestrians from unauthorized movements into the active work zone and to prevent conflicts with traffic by eliminating the possibility of mid-block crossings.

If a high potential exists for vehicle incursions into the pedestrian space, judgment must be exercised as to whether to reroute pedestrians or use barriers.

Engineering judgment in each temporary traffic control zone situation should readily determine the extent of pedestrian needs. The intent of temporary traffic control zones should provide both a sense of security and safety for pedestrians walking past work sites and consistent, unambiguous channelization to maintain foot traffic along the desired travel paths.

Bicycle Considerations

Whenever possible, maintain bicycle lanes. Provide bicycle warning signs where appropriate.

There are several considerations in planning for bicyclists in temporary traffic control zones on highways and streets:

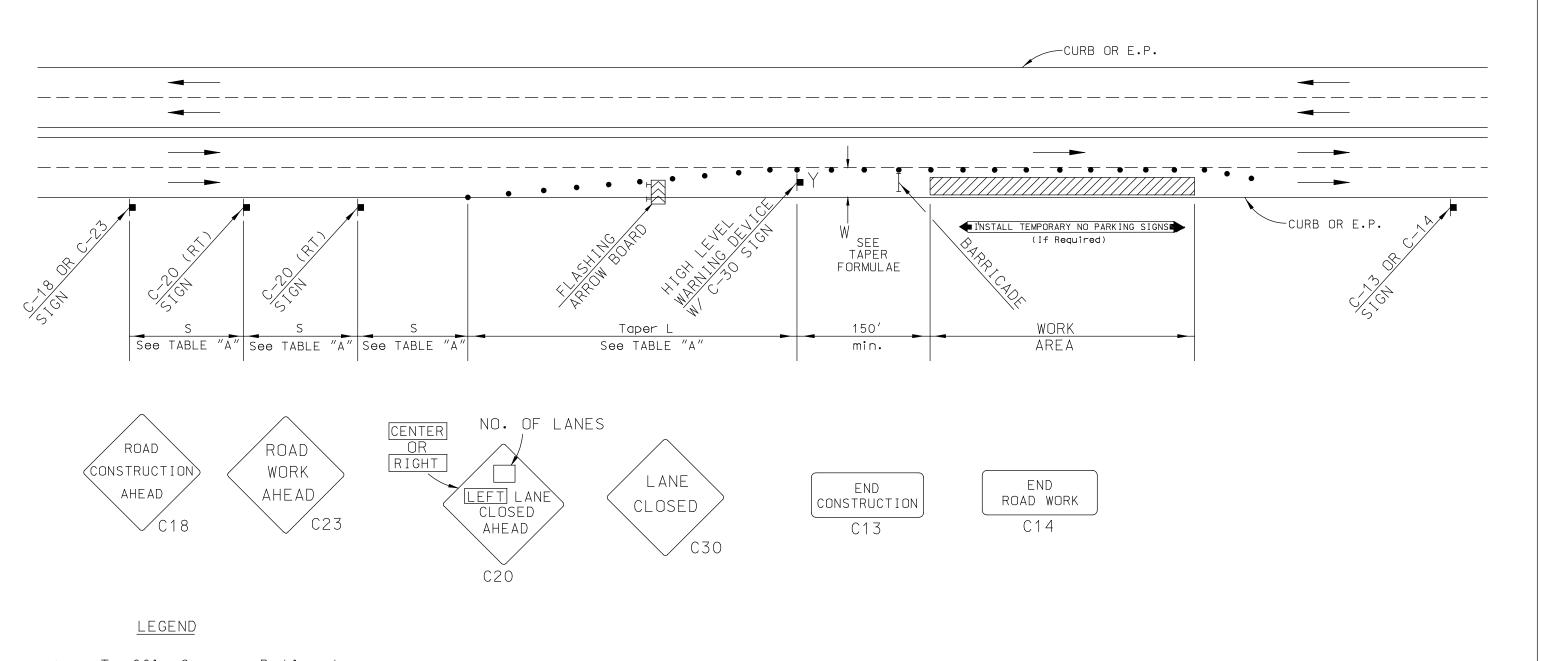
- A travel route that replicates the most desirable characteristics of a wide paved shoulder or bikeway through or around the traffic control zone is desirable for bicyclists.
- If the traffic control zone interrupts the continuity of an existing bikeway system, signs directing bicyclists through or around the zone and back to the bikeway is desirable.
- Unless a separate bike path through or around the traffic control zone is provided, adequate roadway lane width to allow bicyclists and motor vehicles to travel side by side through or around the zone is desirable.
- Bicyclists shall not be led into direct conflicts with mainline traffic, work site vehicles, or equipment moving through or around the traffic control zone.

Special Considerations

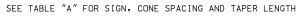
All traffic control devices used on street construction, maintenance, utility, or incident management (temporary traffic control) operations shall conform to the applicable specifications of Chapter 5 of the Caltrans Manual of Traffic Control.

Special plan preparation and coordination with transit and other highway agencies, police and other emergency units, utilities, schools, railroads, etc. will be needed to receive input and support for advising motorists of potential traffic operation situations.

During temporary traffic control activities, commercial vehicles may need to follow a different route from automobiles because of bridge, weight, clearance, or geometric restrictions. Also, vehicles carrying hazardous materials may need to follow a different route from other vehicles.



- Traffic Cone or Delineator
- **■** Sign
- Direction of Travel
 (Not a pavement marking)
- Flashing Arrow Board (Where Required)
- Y High Level Warning Device (Flagtree)
- → Barricade (For Excavation Only)
- Flagger



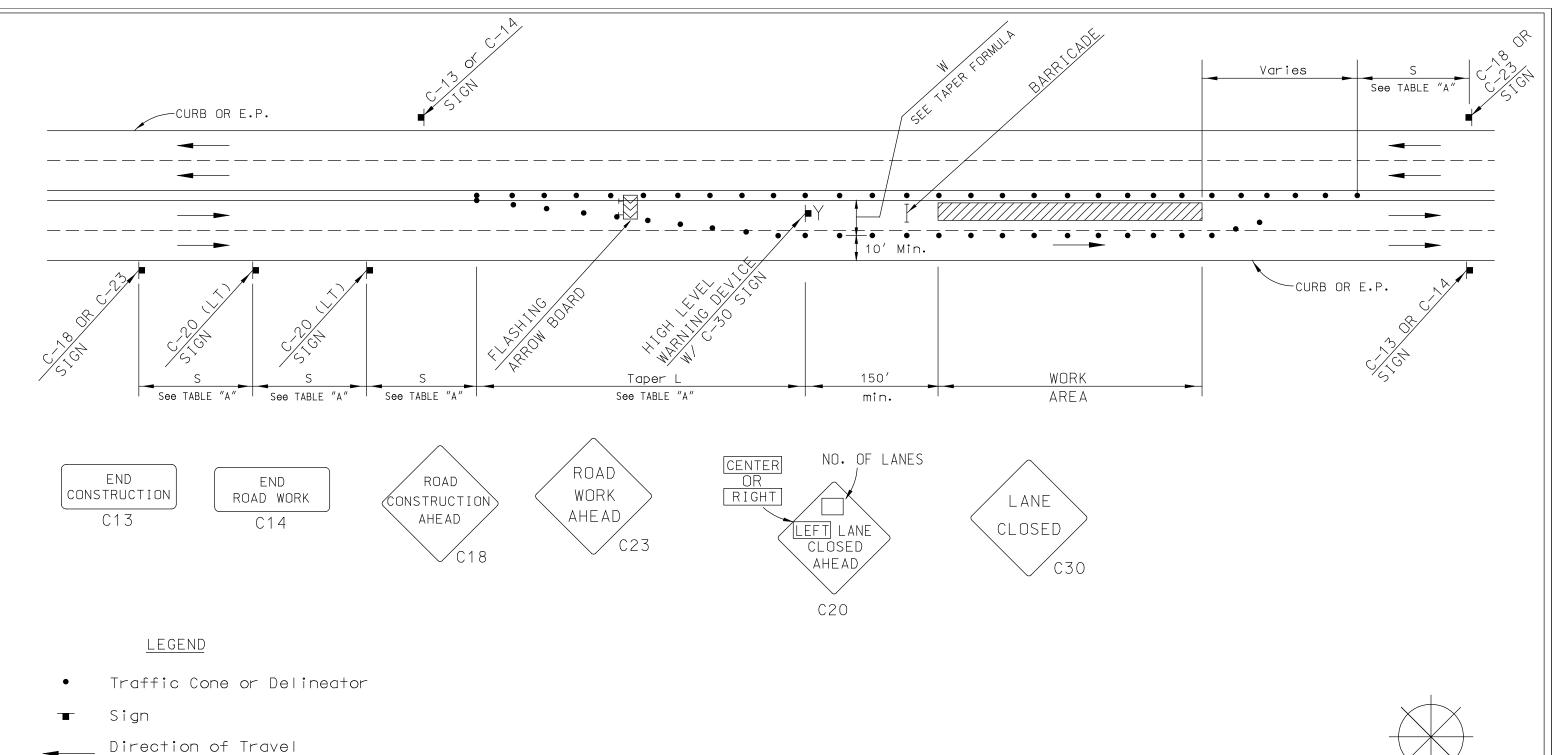
SPEED	APPROACH STREET	TAPER LENGTH	SIGN SPACING

INDICATE NORTH WITH A "N"
AND AN ARROW POINT

WORKSITE TRAFFIC CONTROL PLAN
SINGLE LANE CLOSURE (RIGHT LANE)

DATE 05/06/2003 Rev. MPL 05/12/2003 WRS

DRAWING NO. 1



Direction of Travel (Not a pavement marking)

Flashing Arrow Board (Where Required)

Y High Level Warning Device (Flagtree)

→ Barricade (For Excavation Only)

Flagger

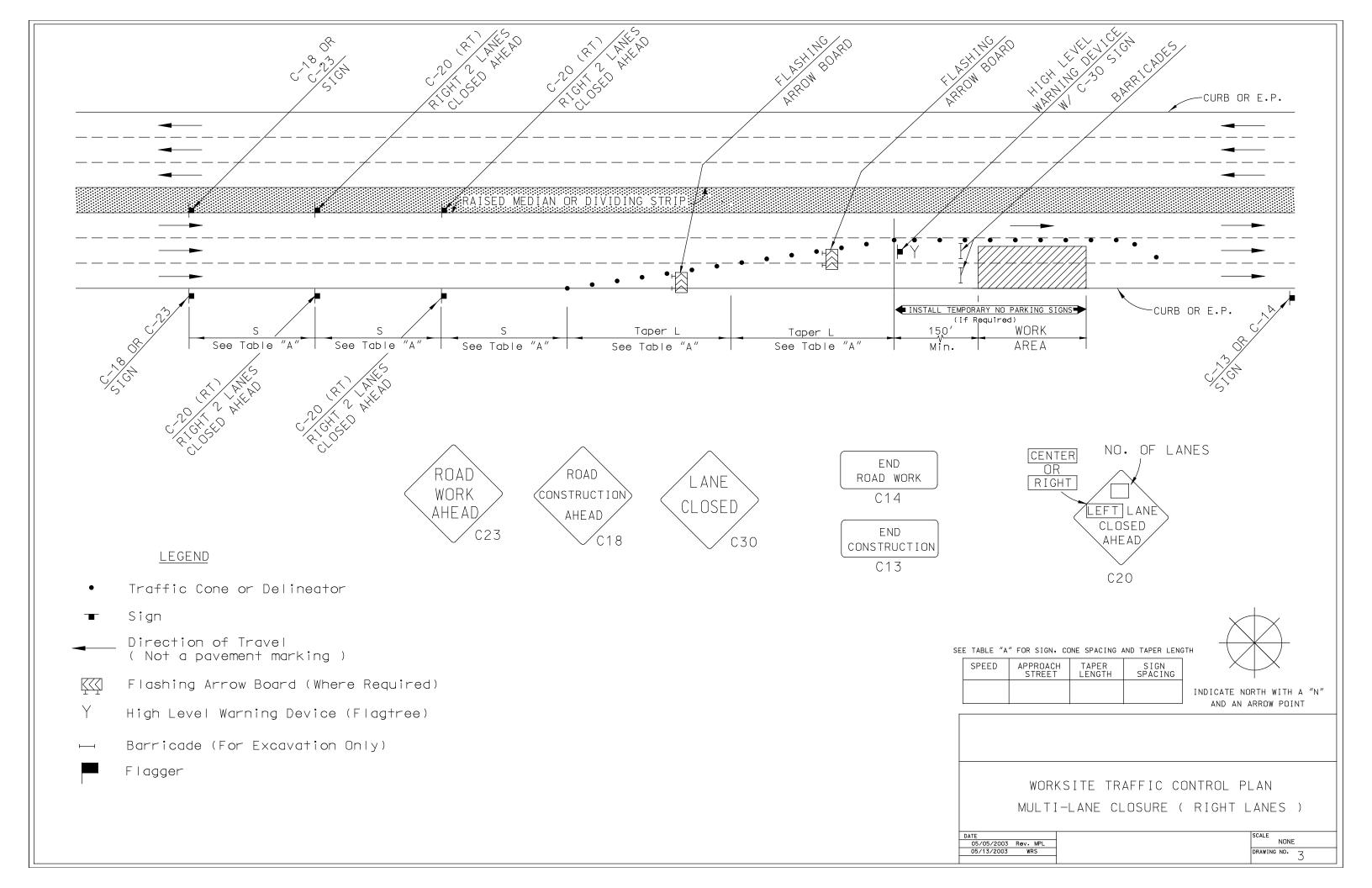
SEE TABLE "A" FOR SIGN. CONE SPACING AND TAPER LENGTH

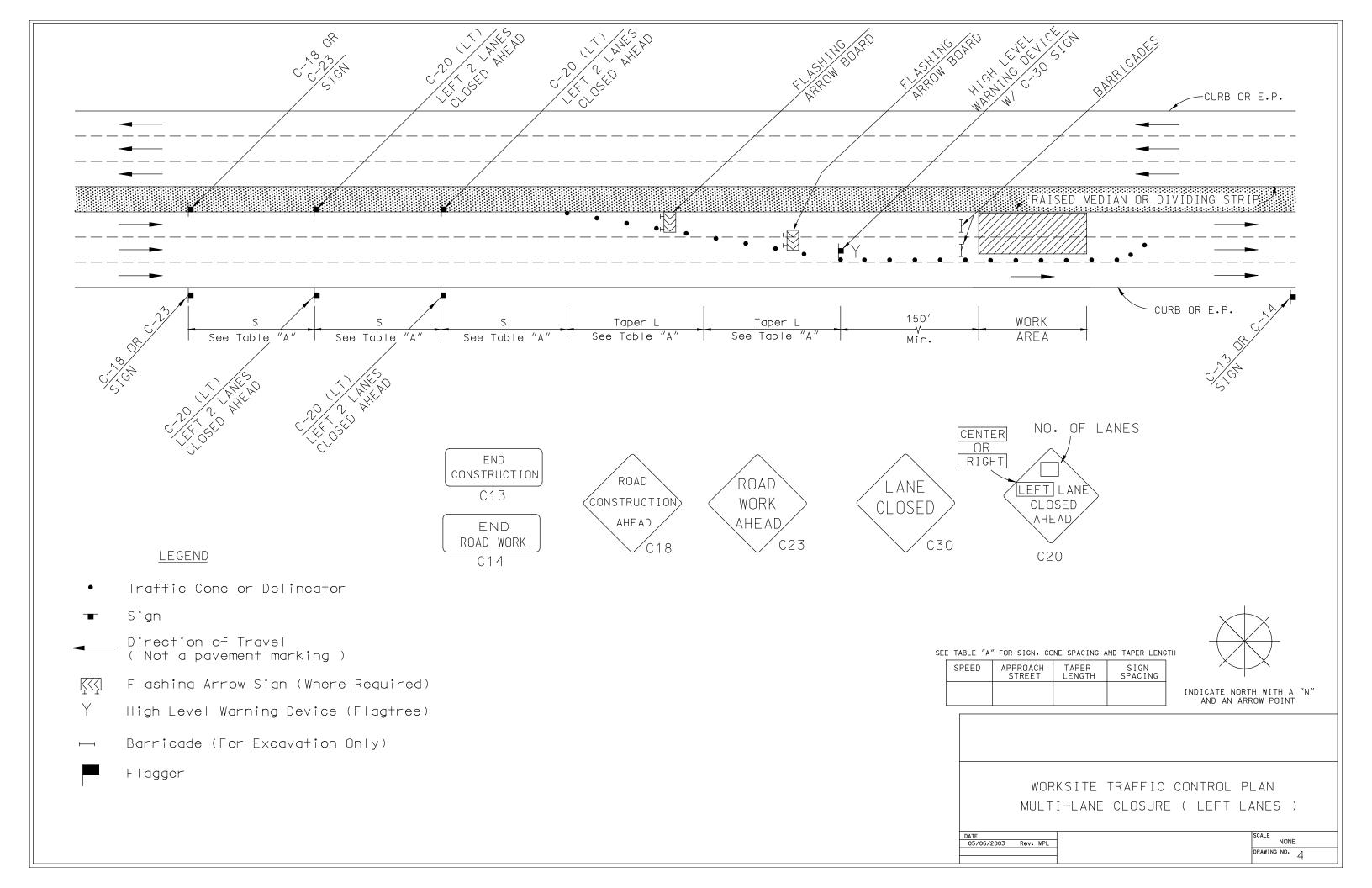
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	STREET	LENGTH	SPACING

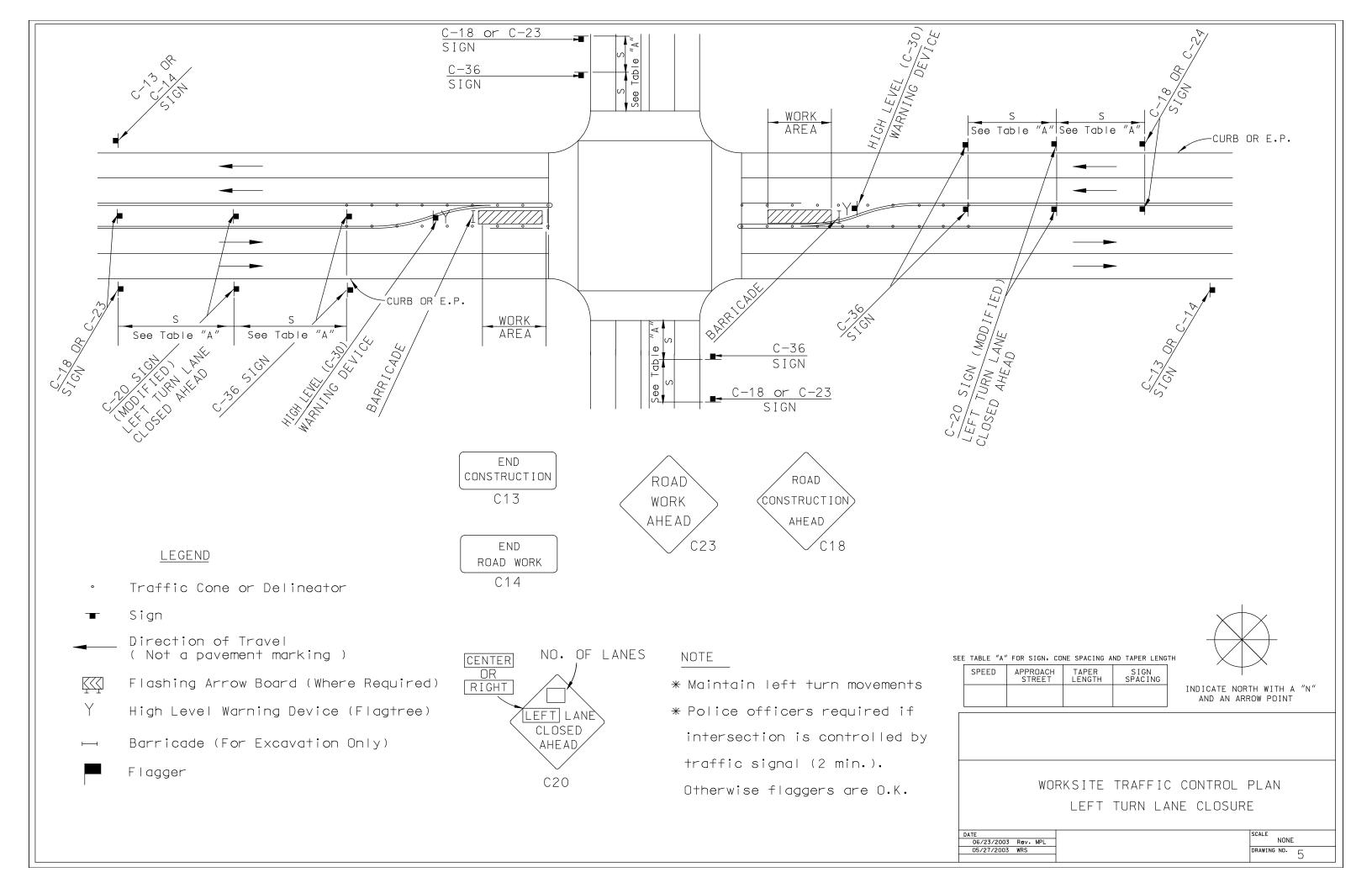
INDICATE NORTH WITH A "N"
AND AN ARROW POINT

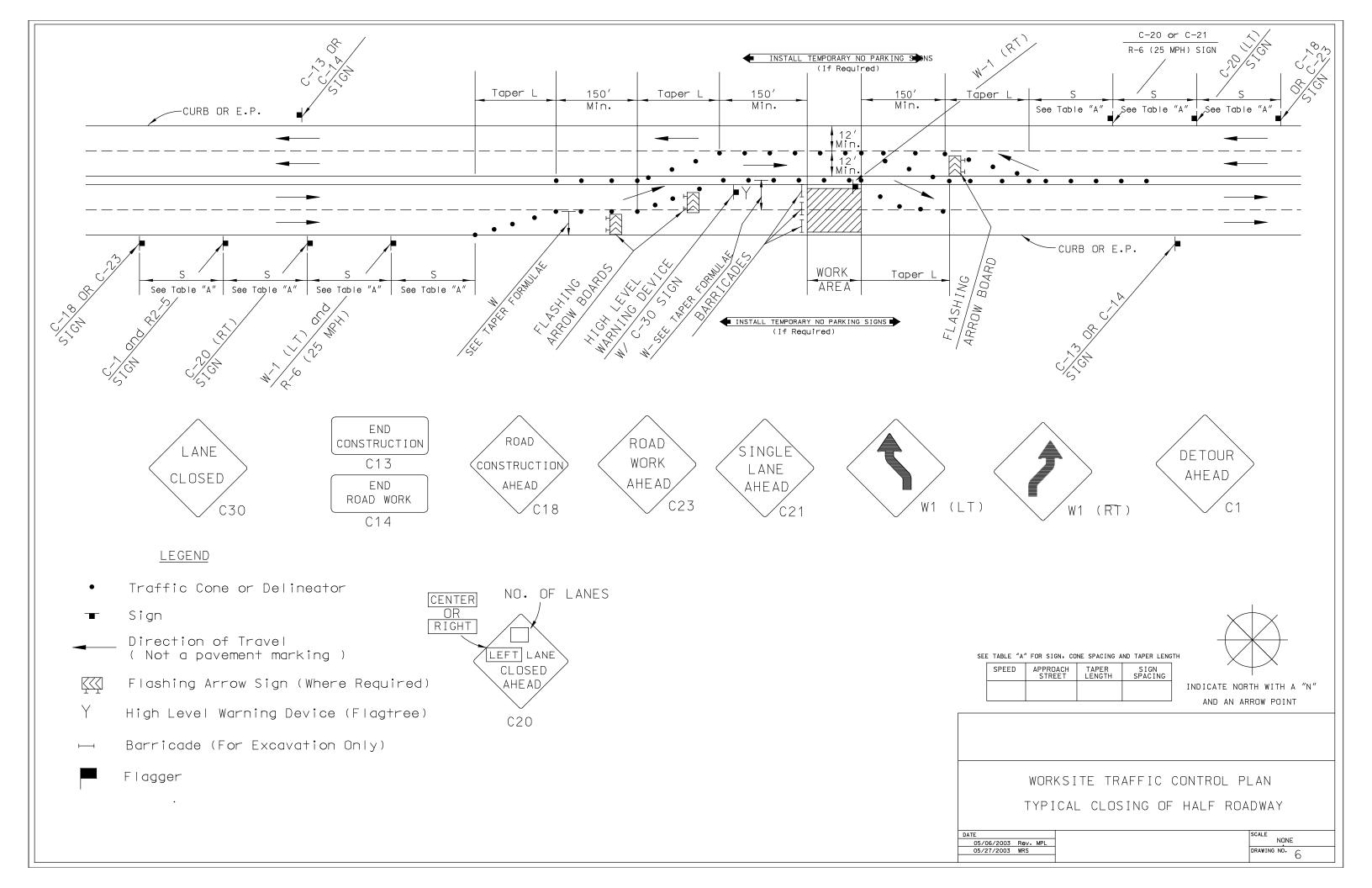
WORKSITE TRAFFIC CONTROL PLAN SINGLE LANE CLOSURE (LEFT LANE)

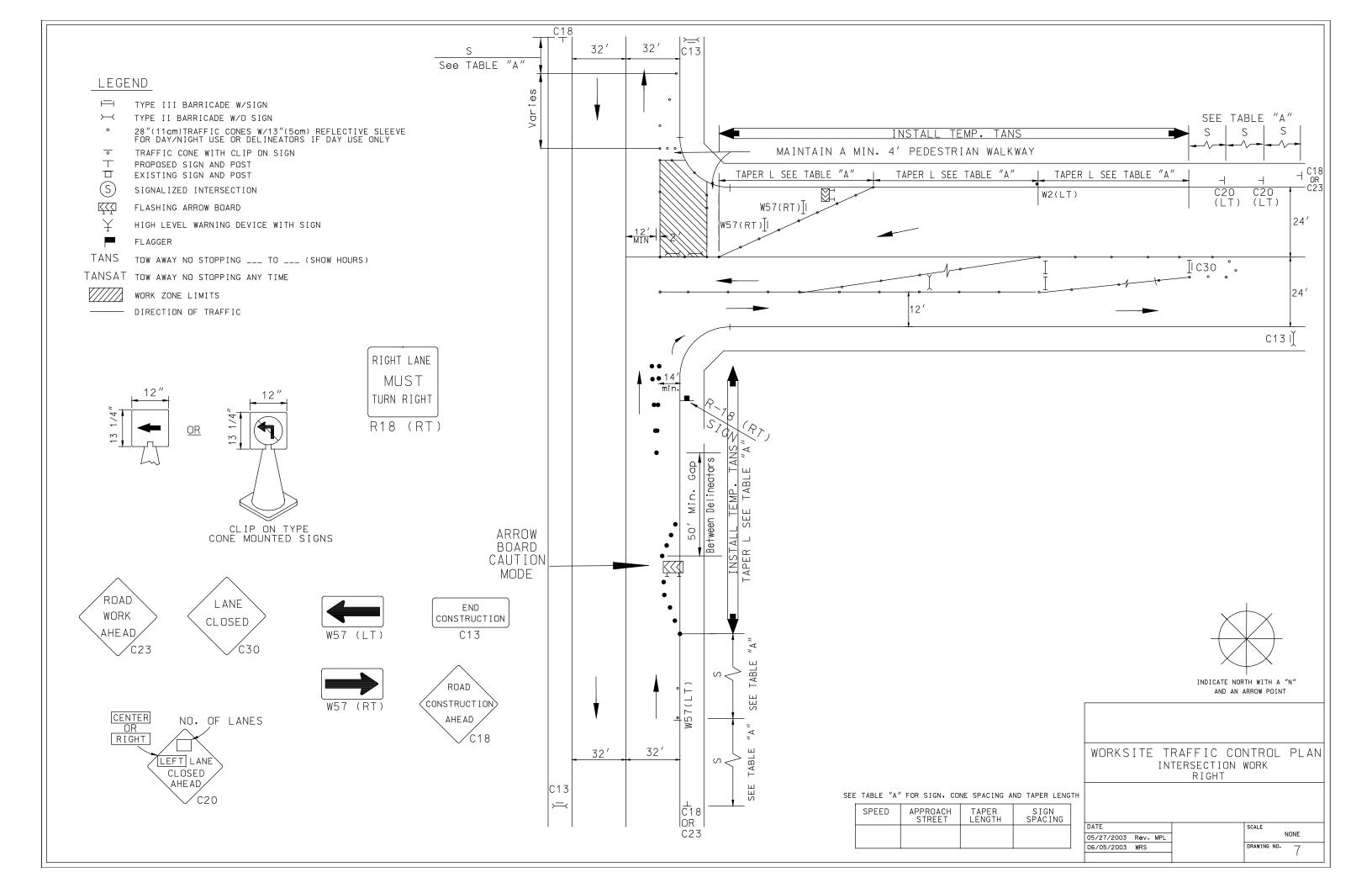
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DRAWING NO. 2

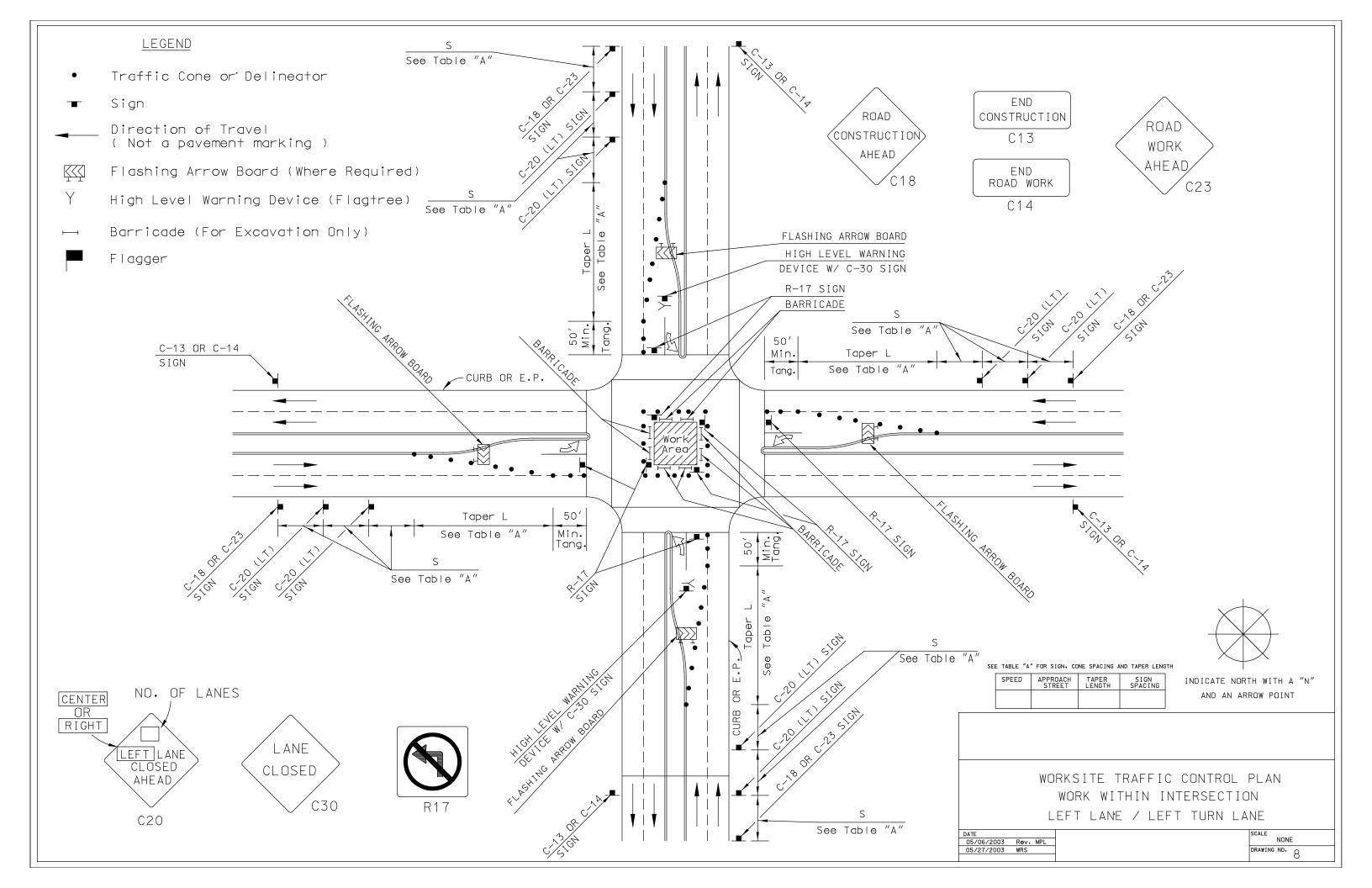


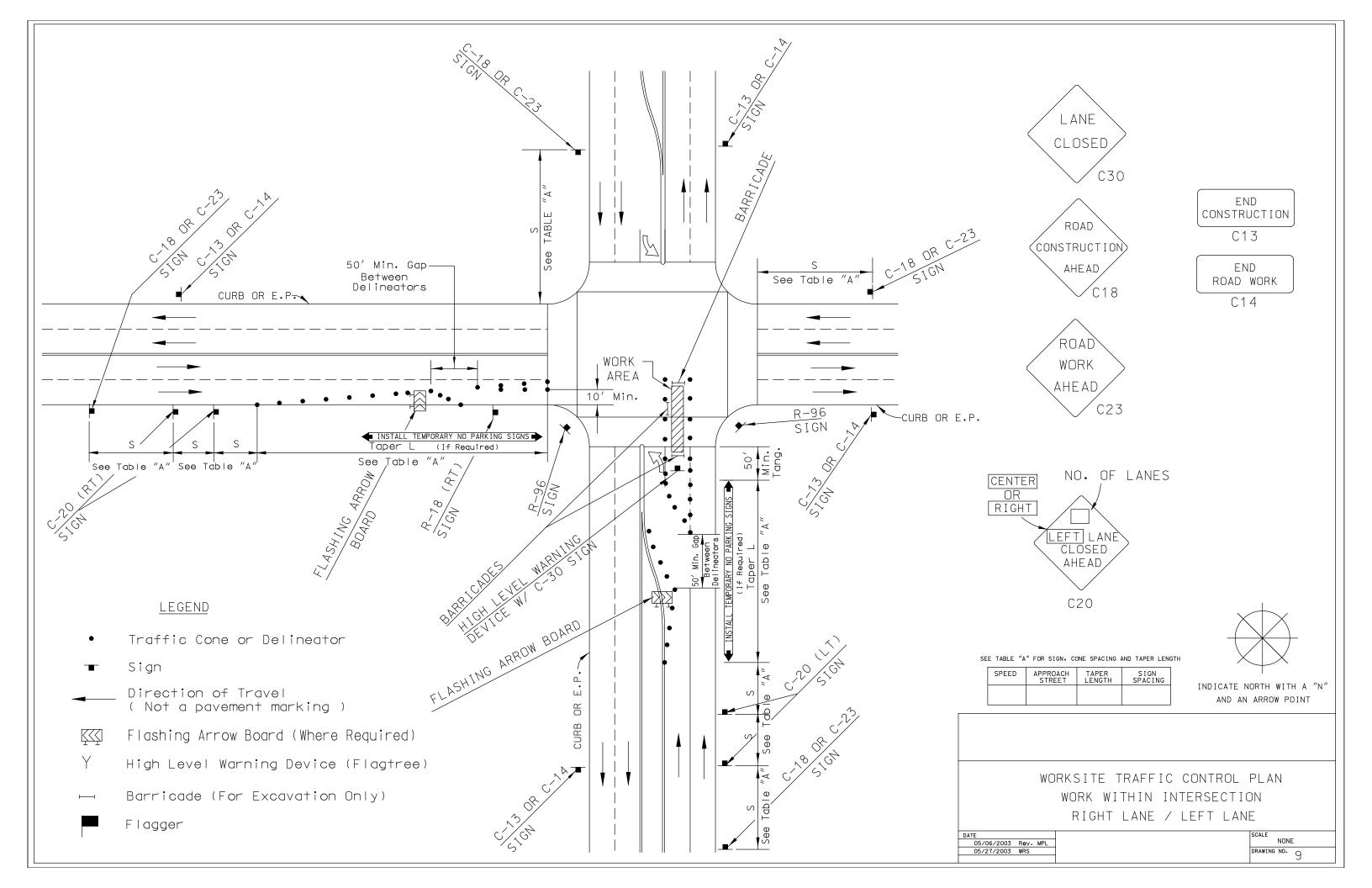


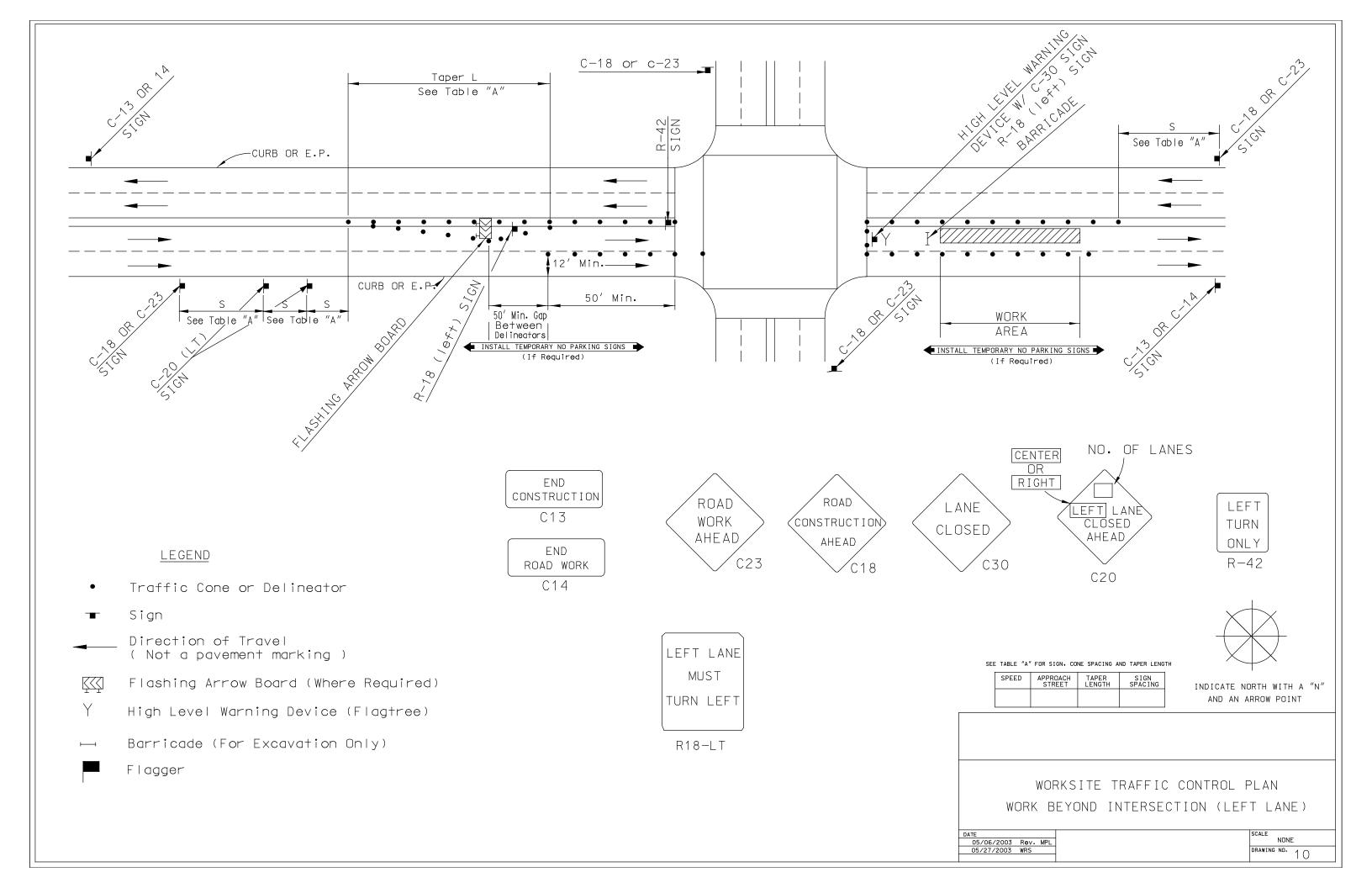


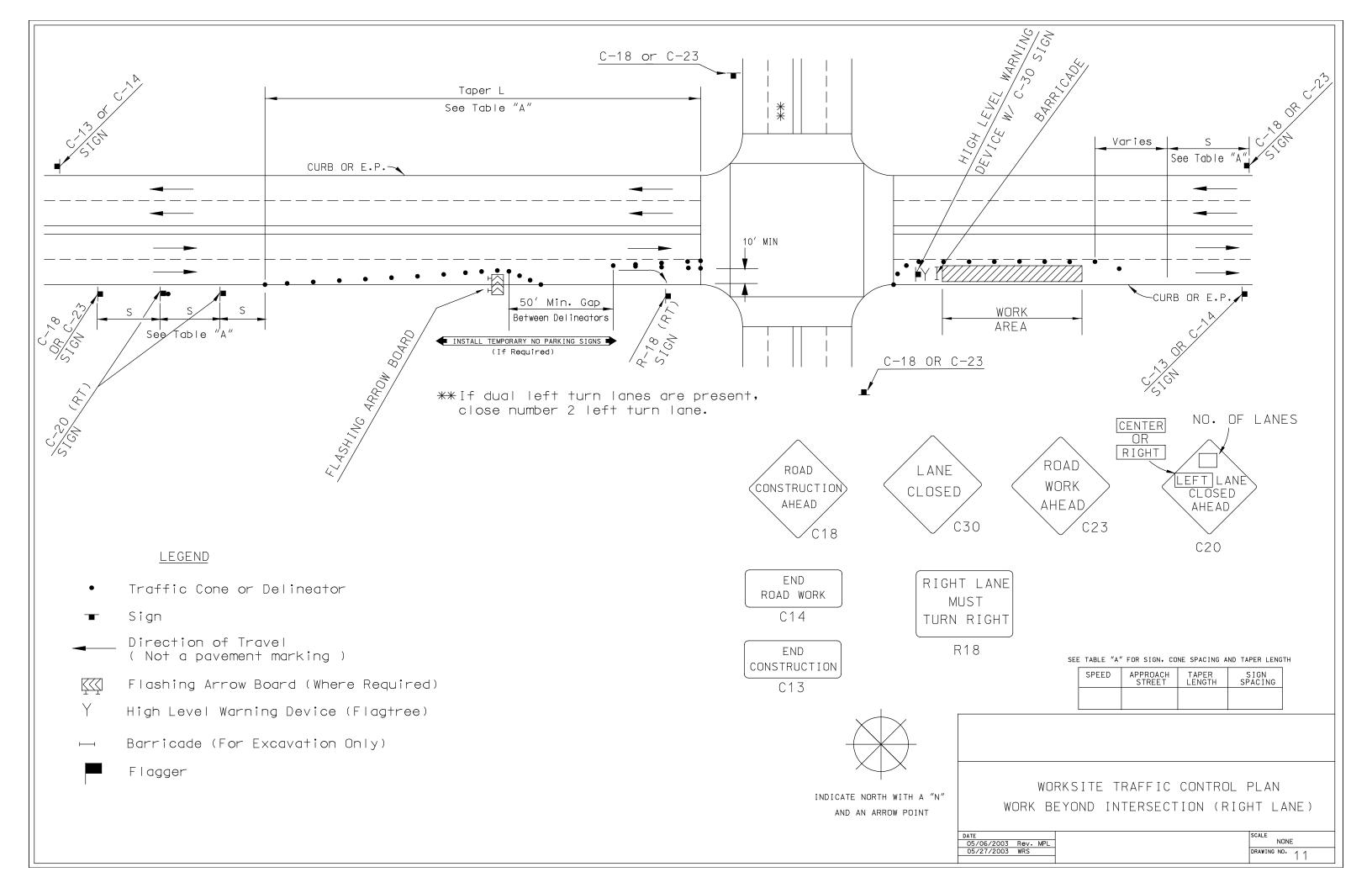


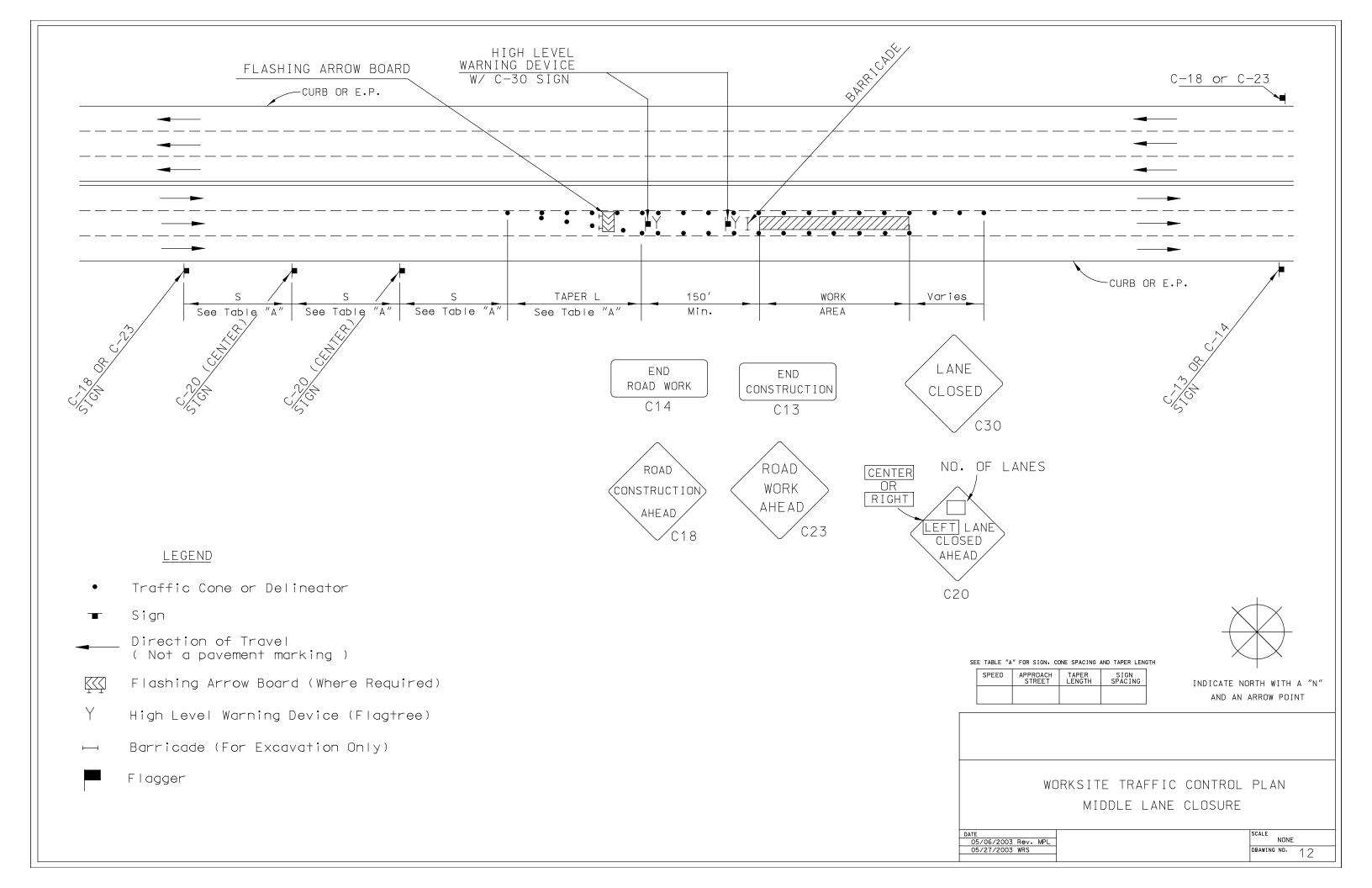


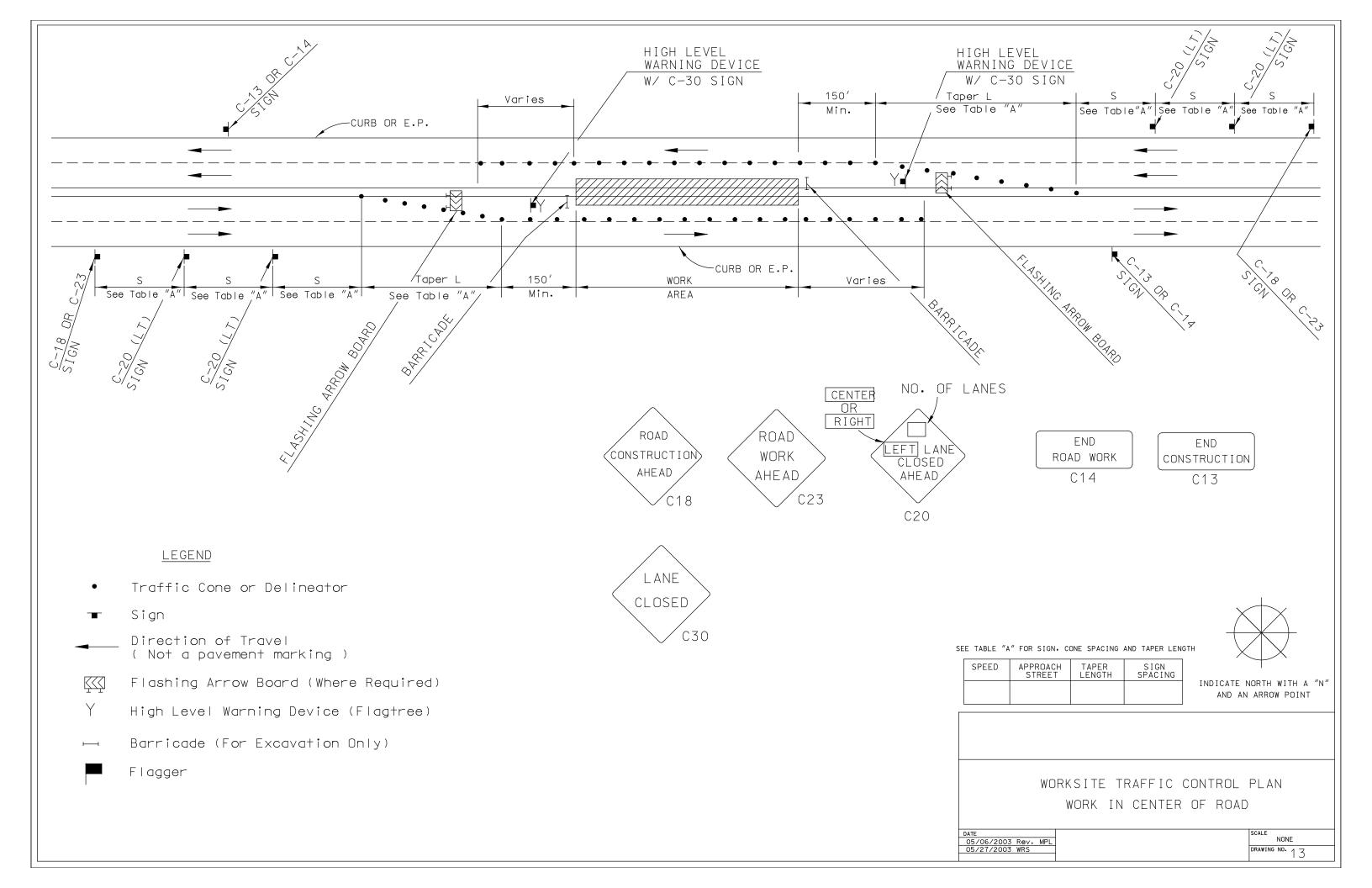


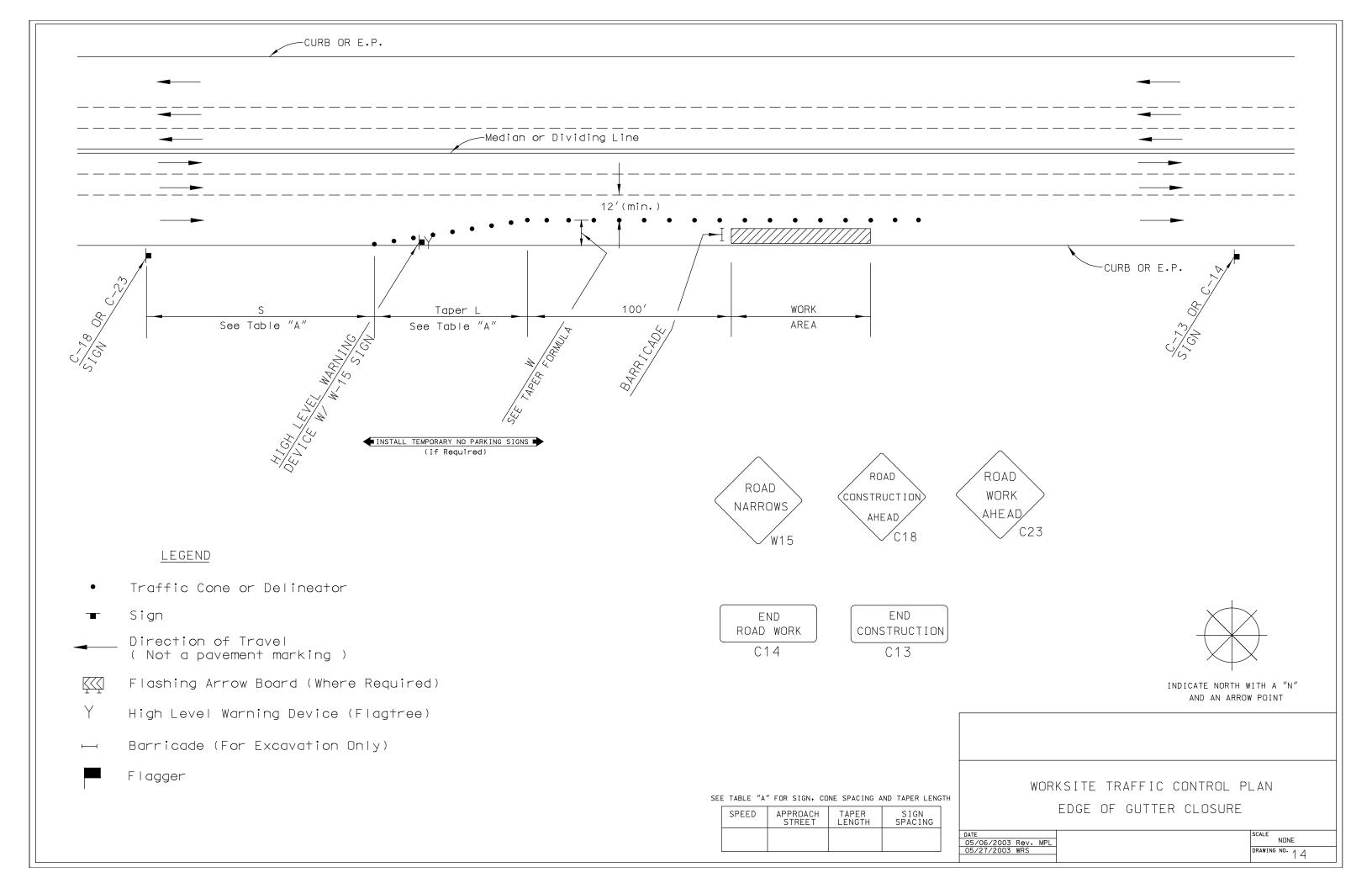


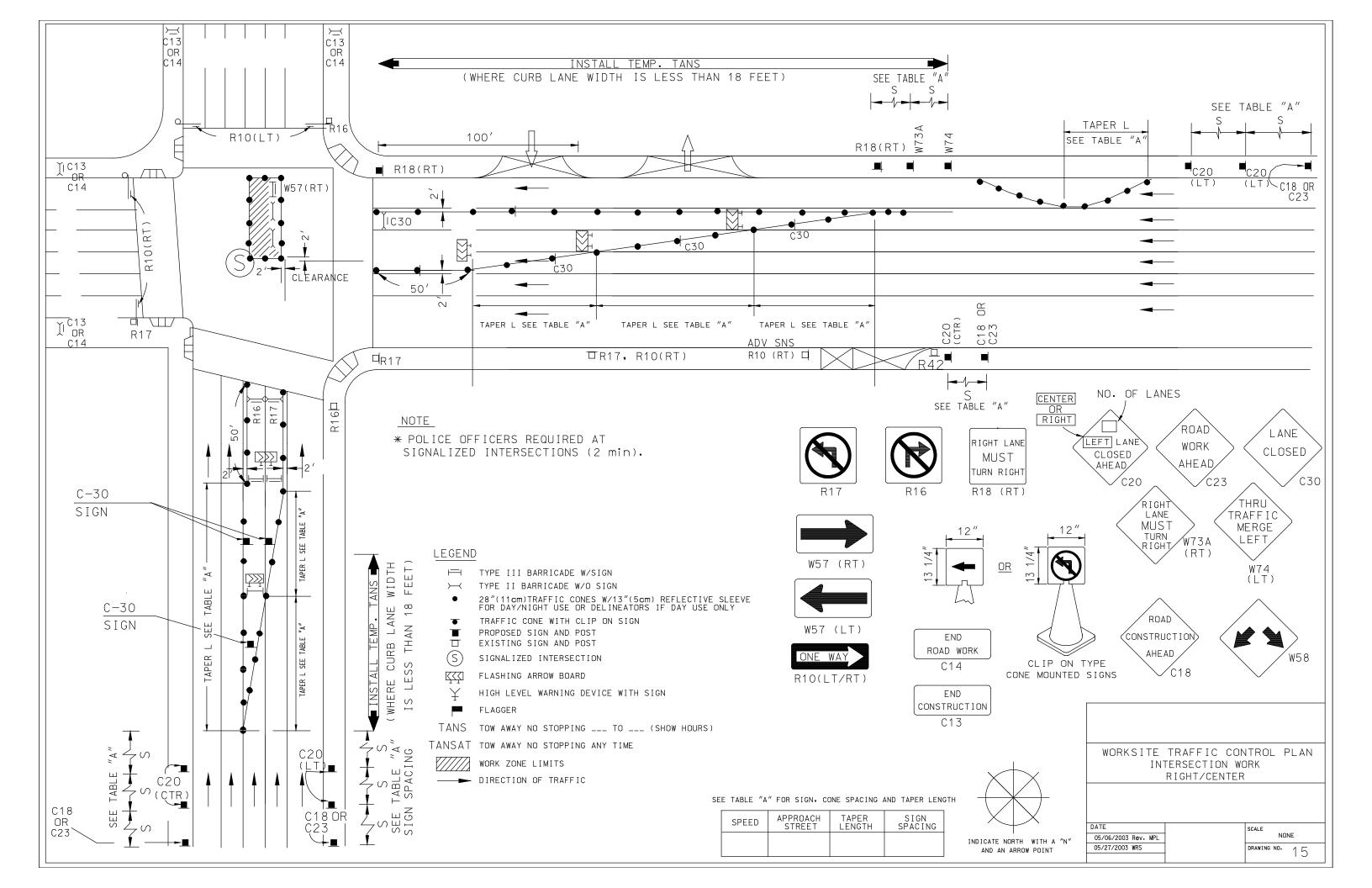


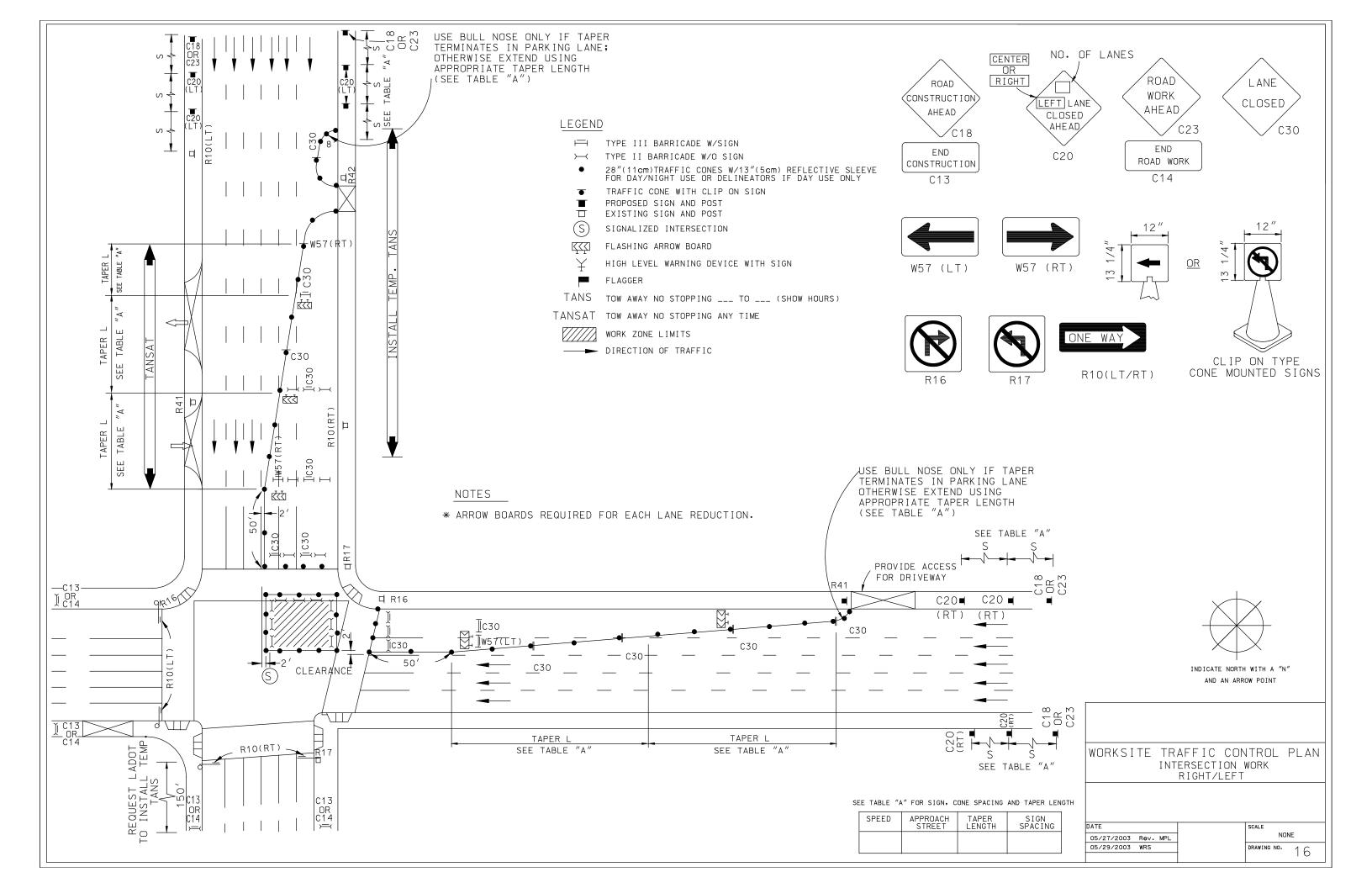


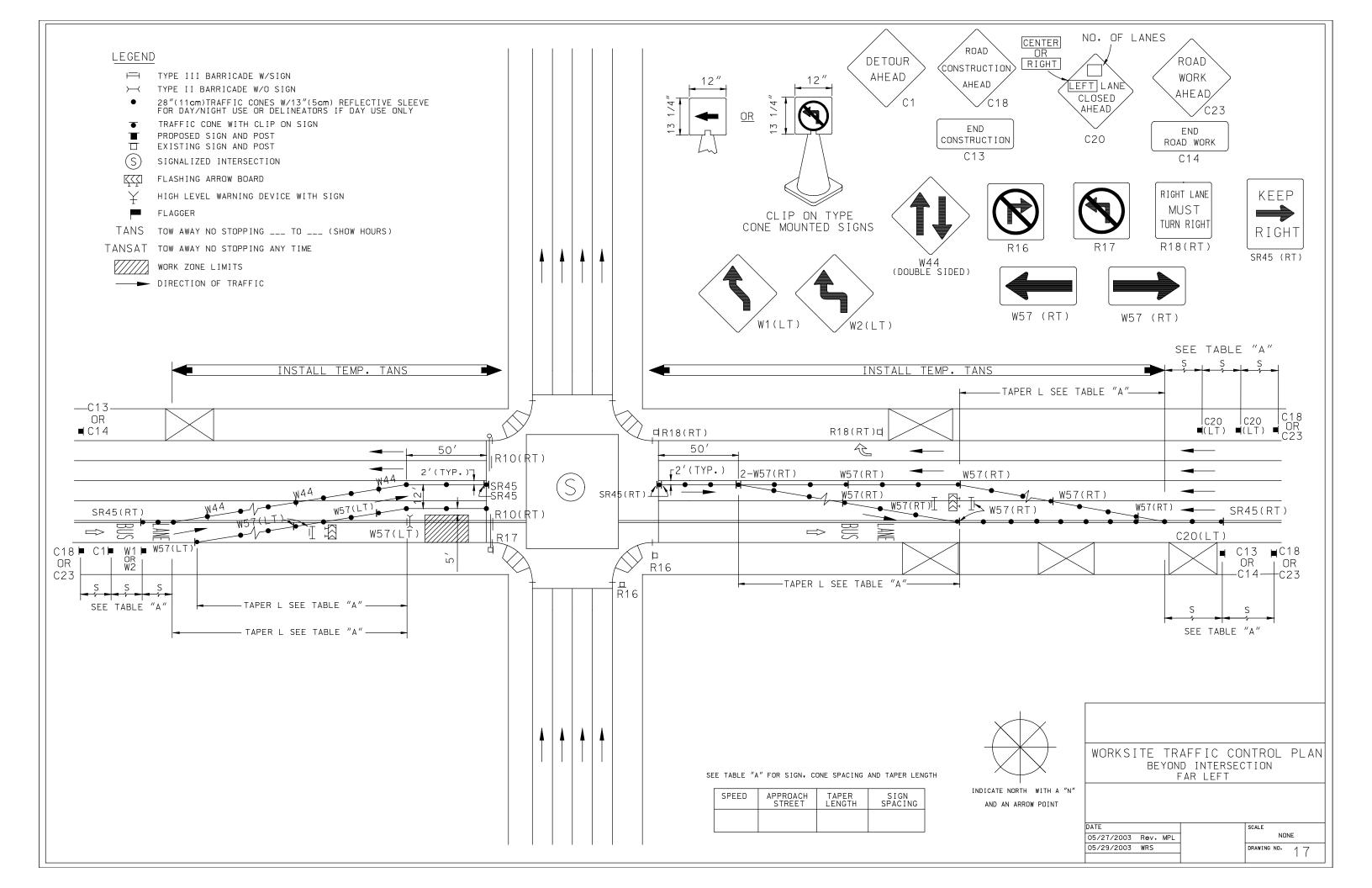


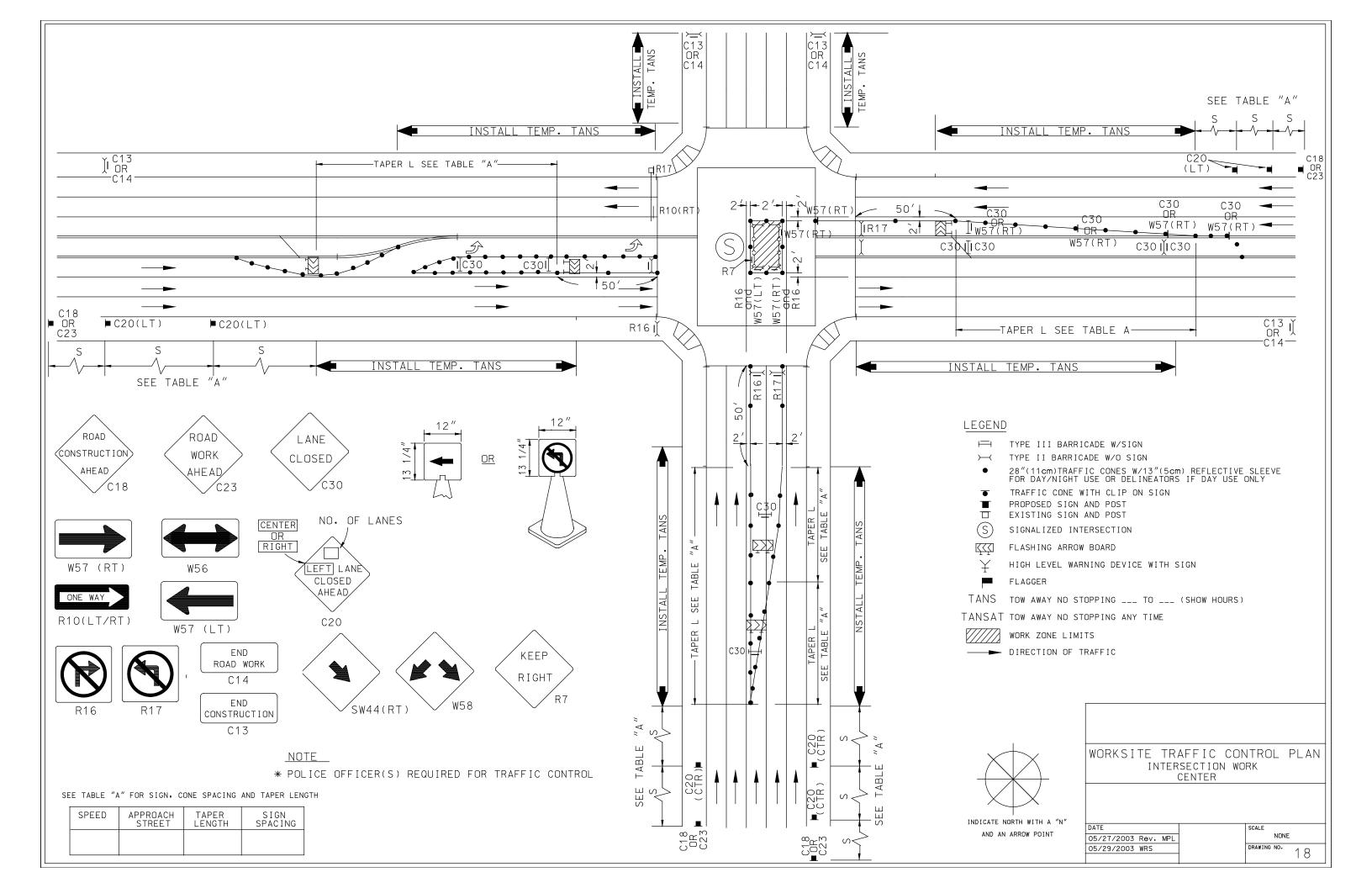


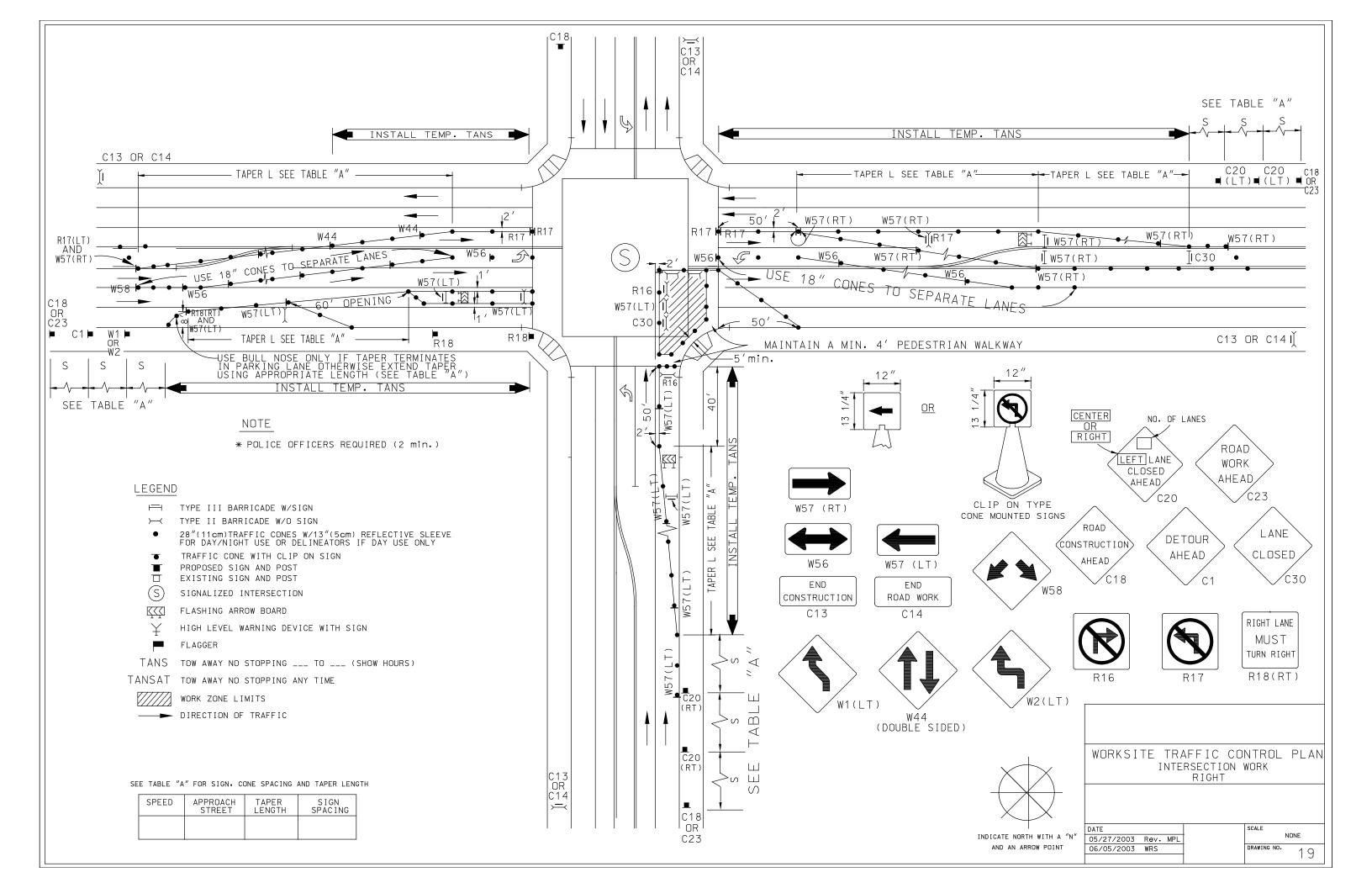


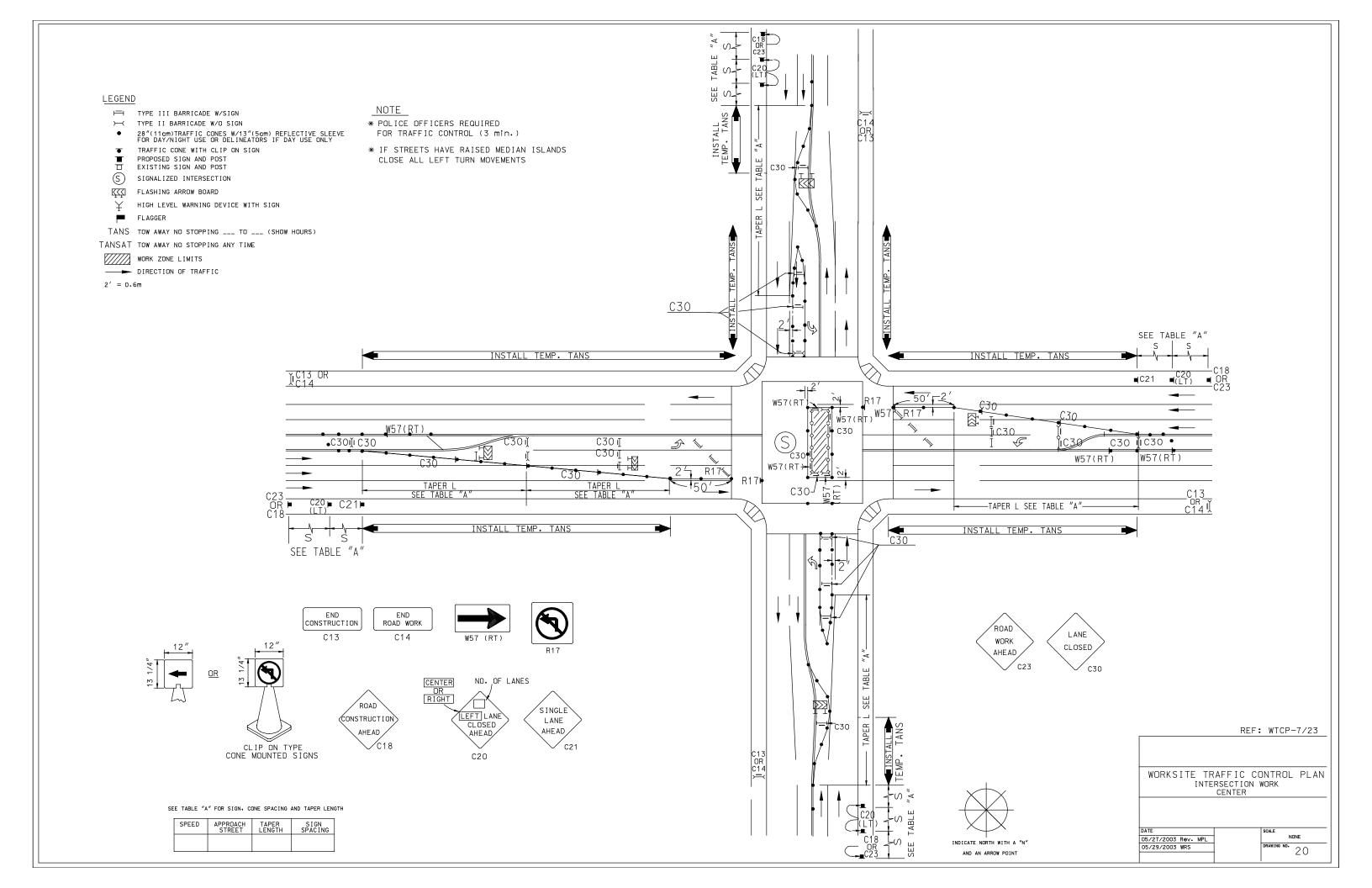


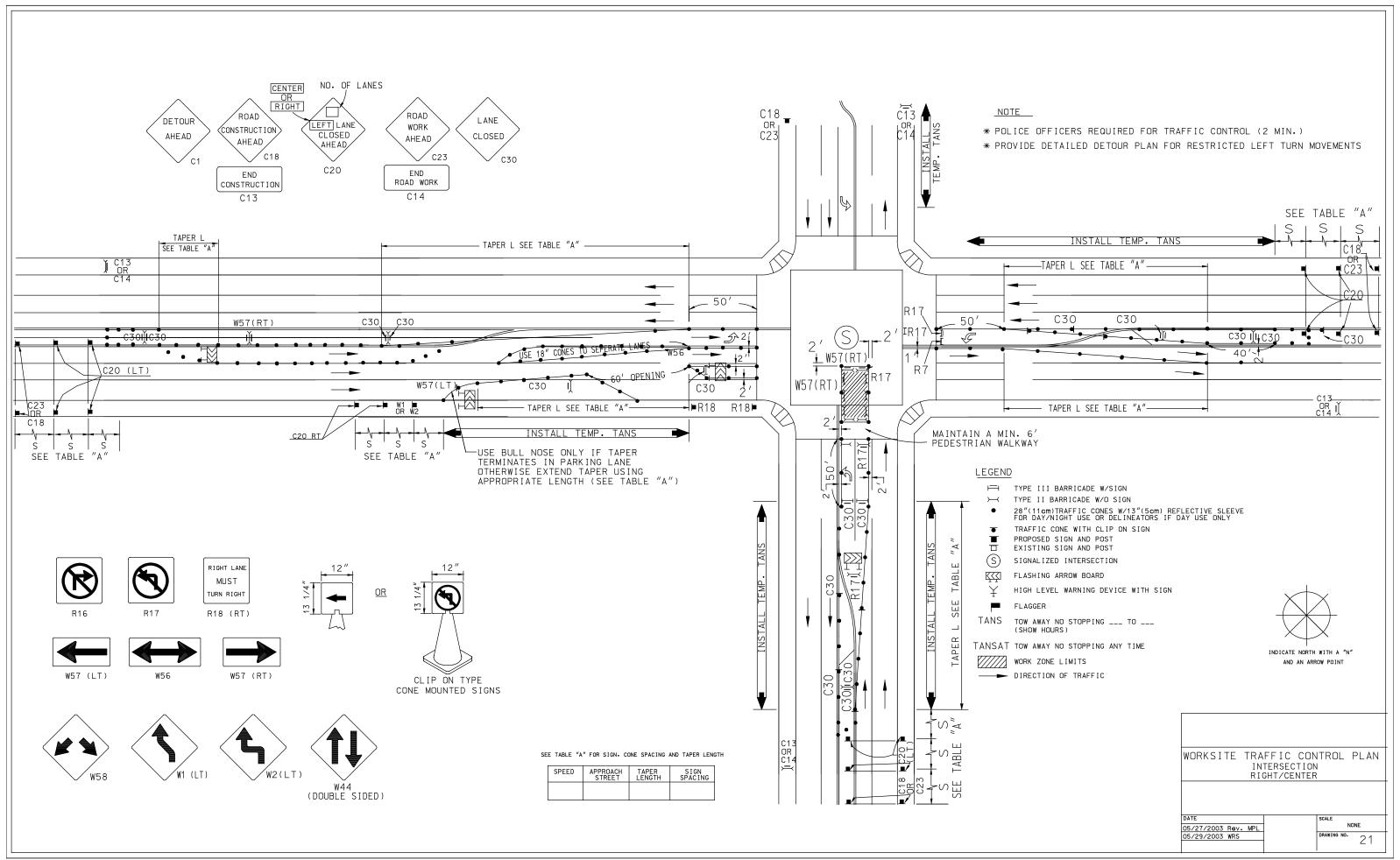


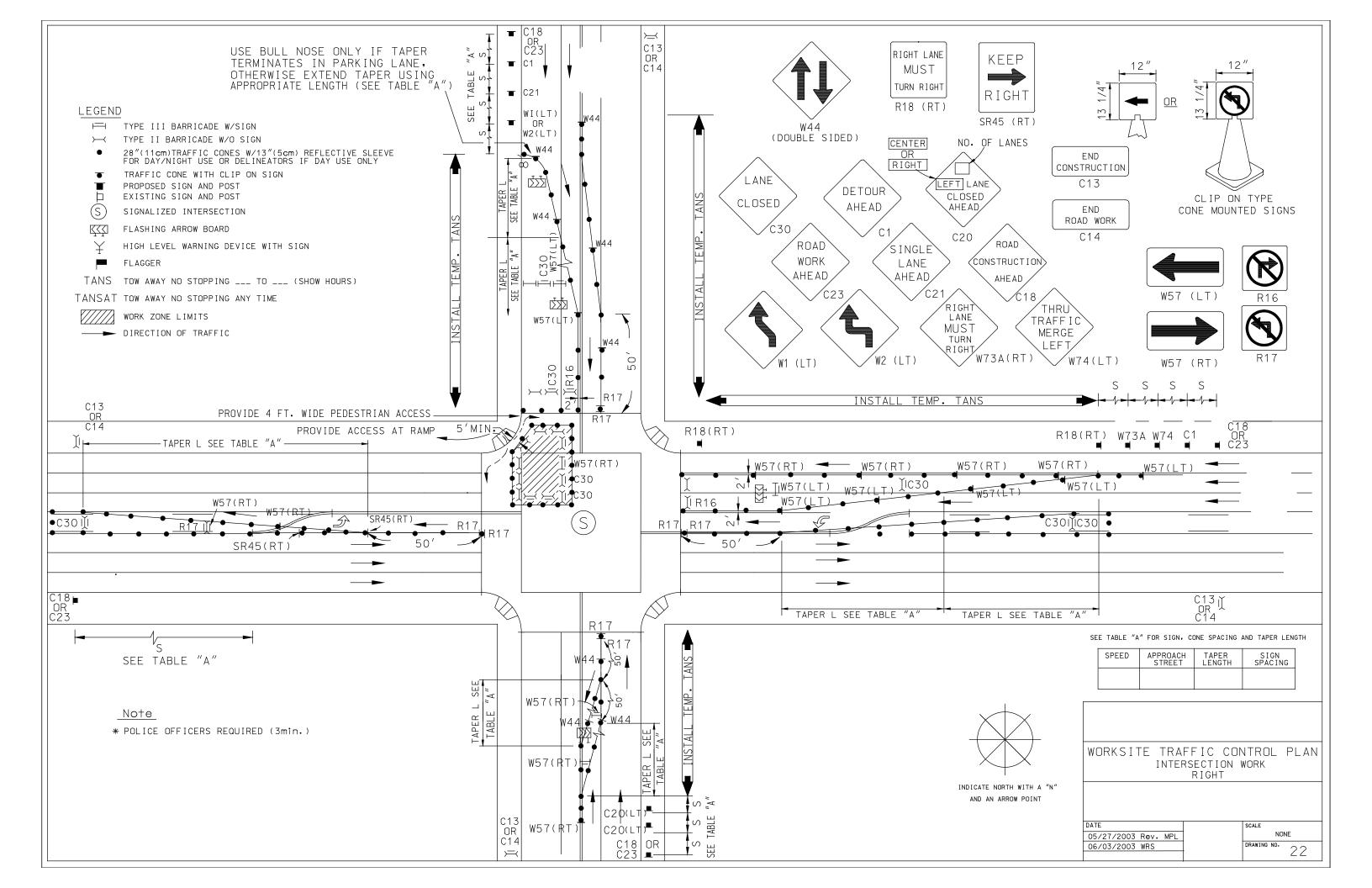


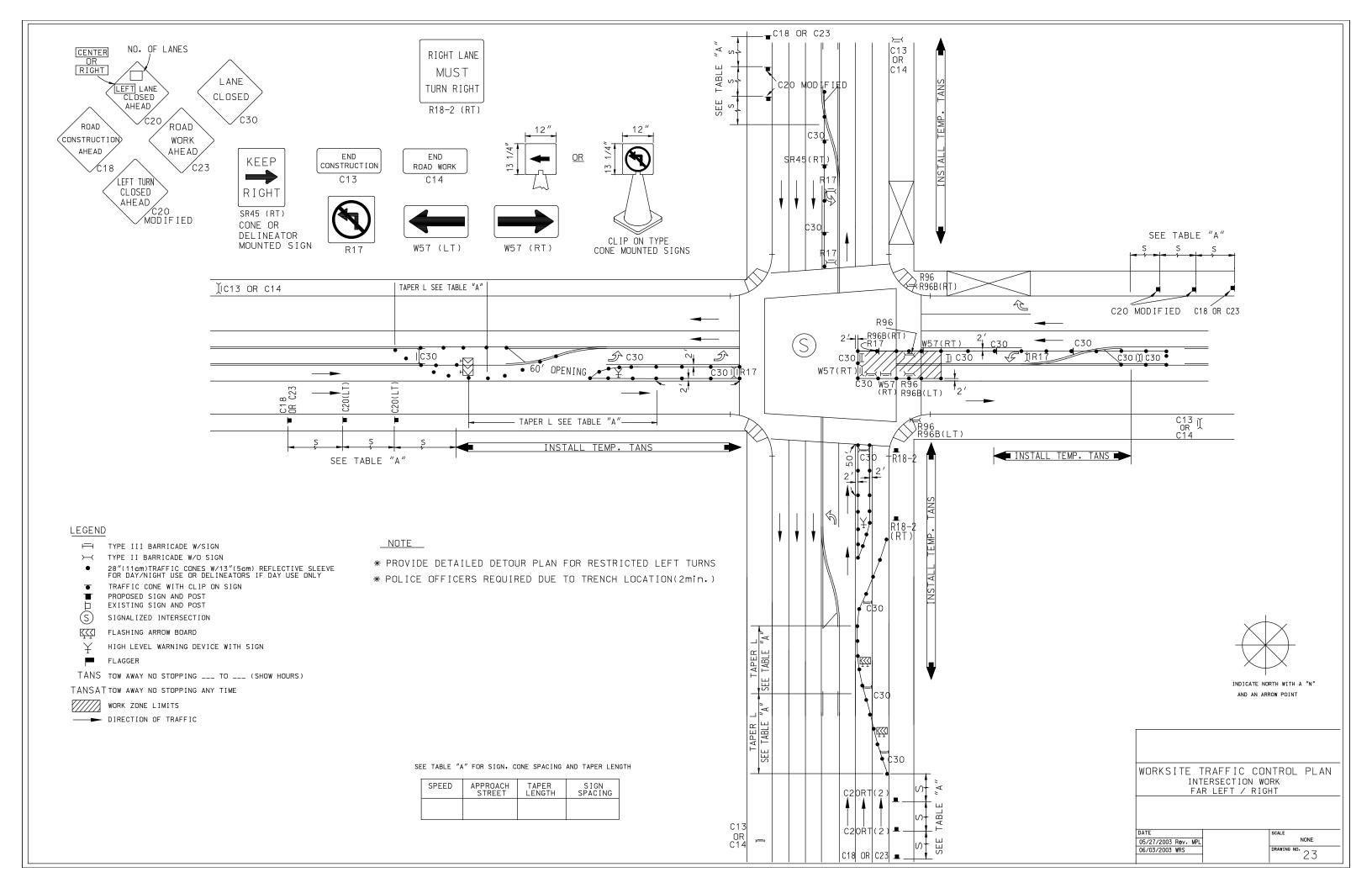


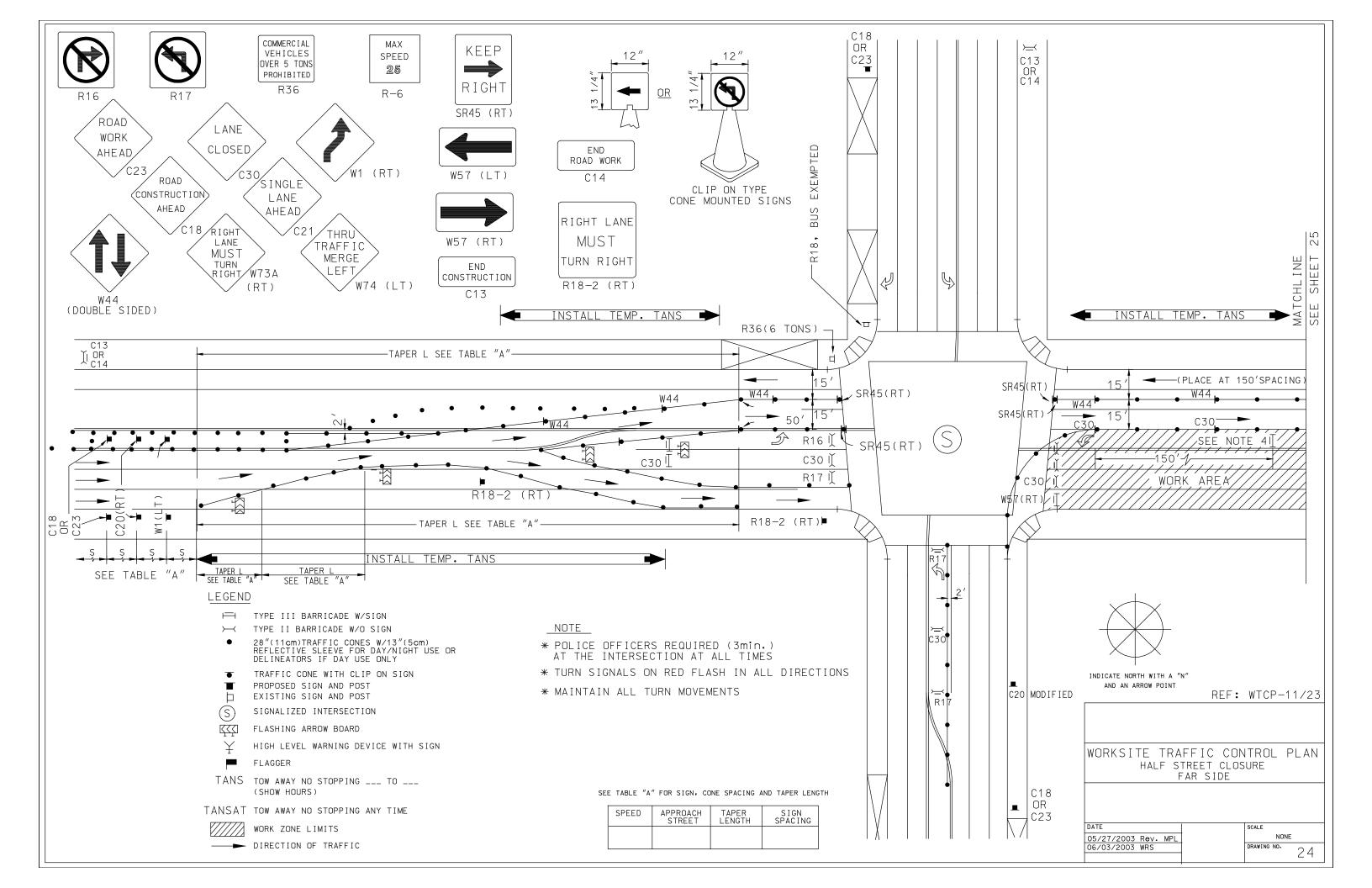


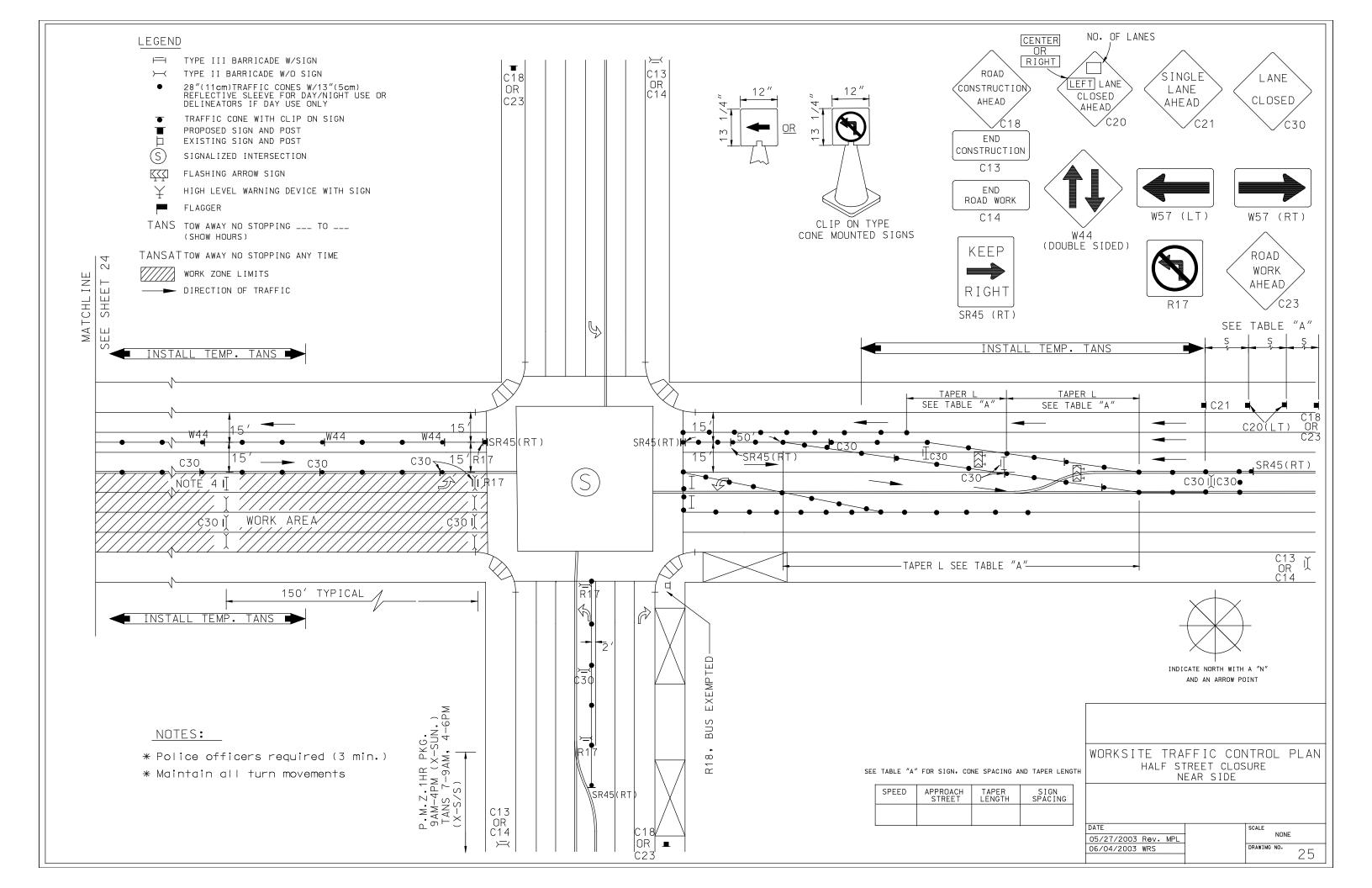


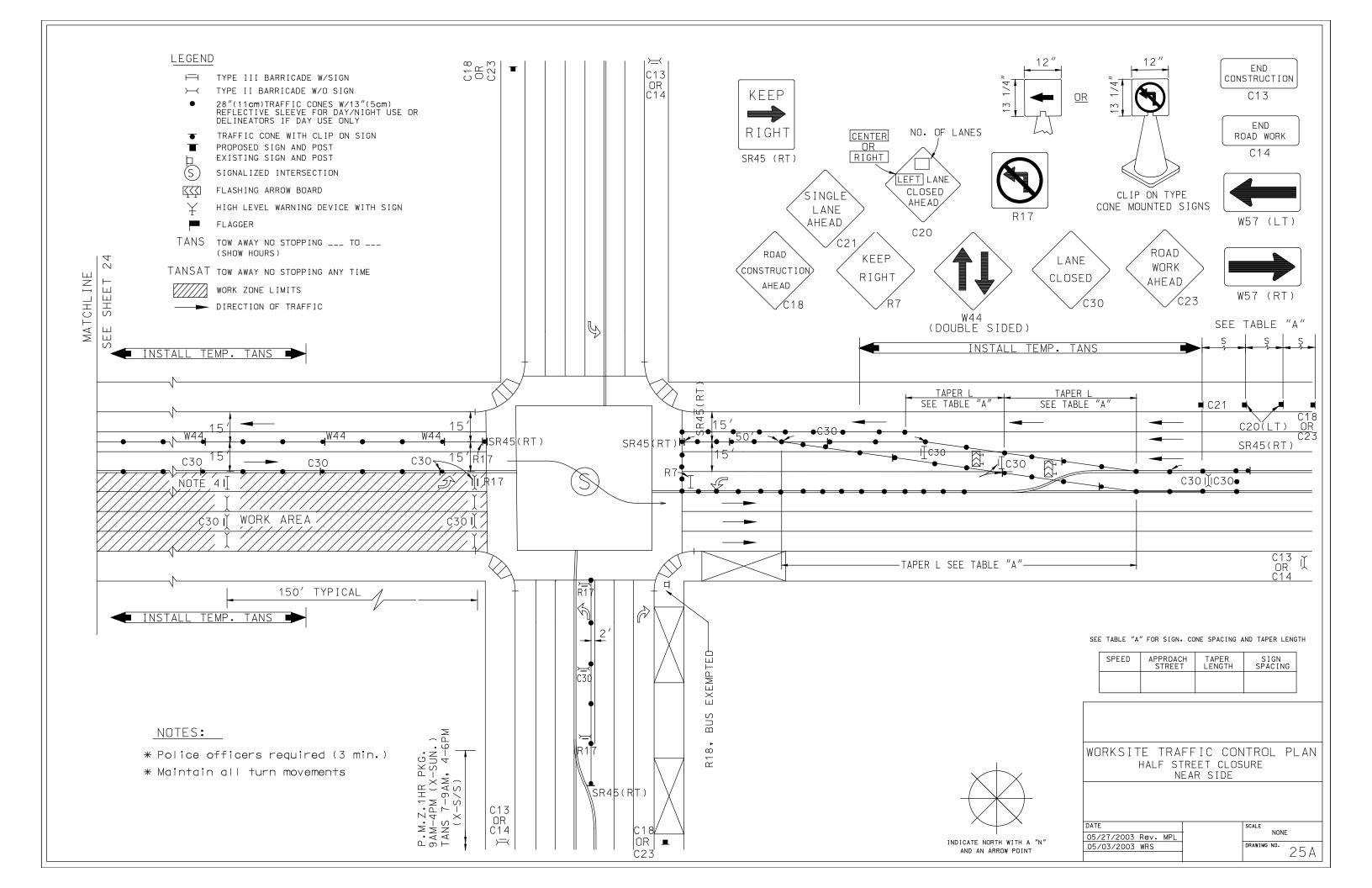


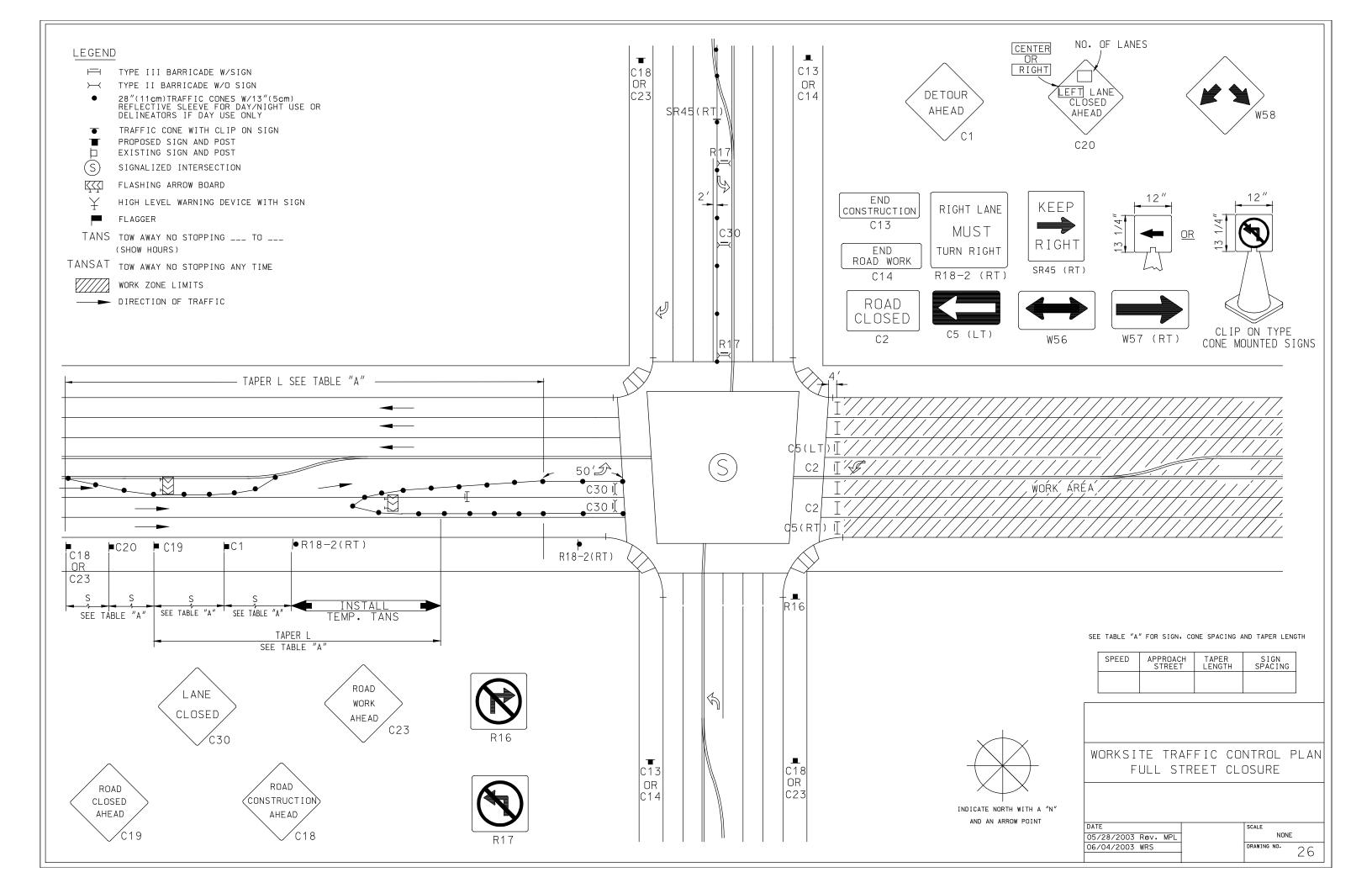


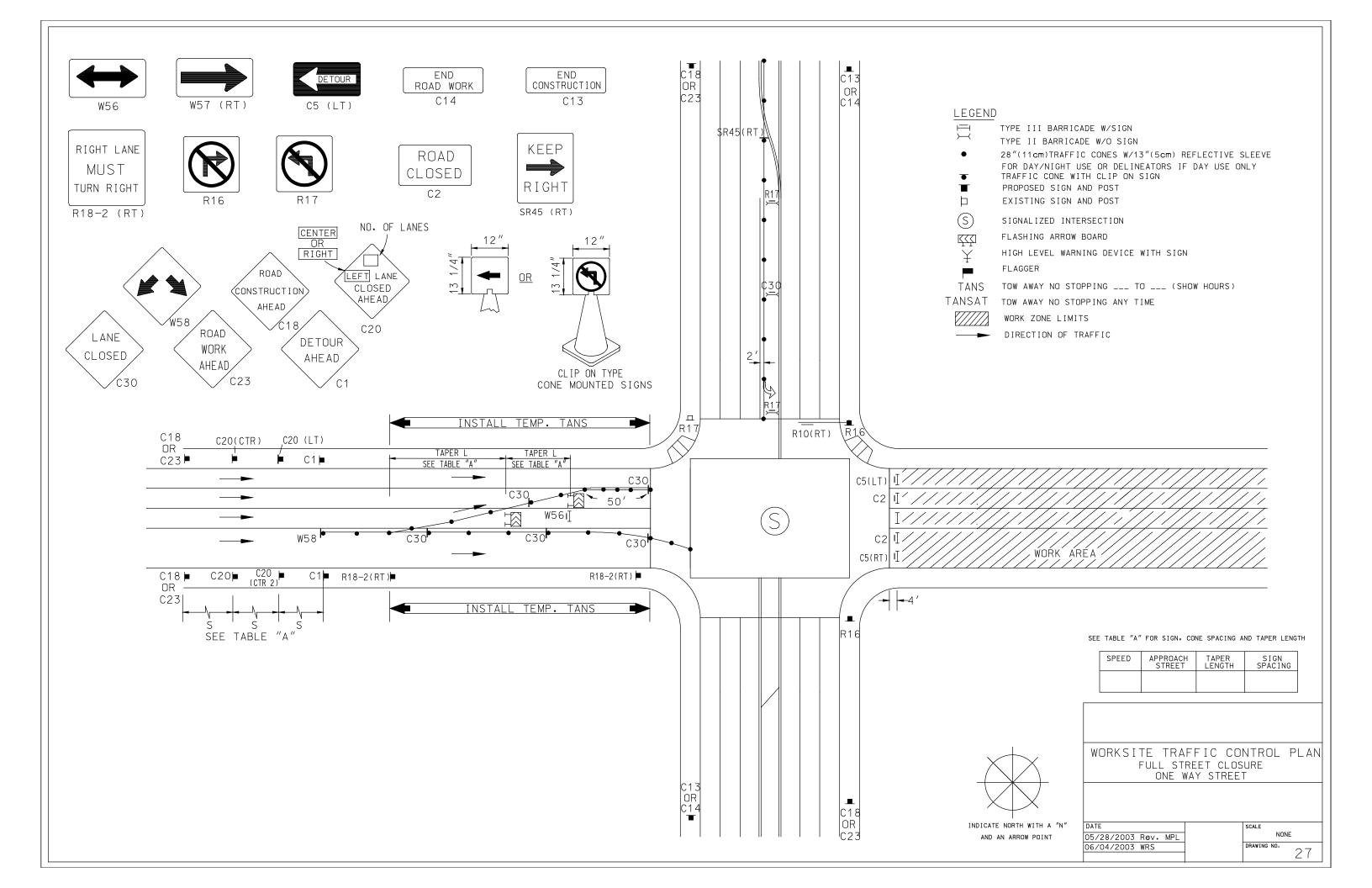


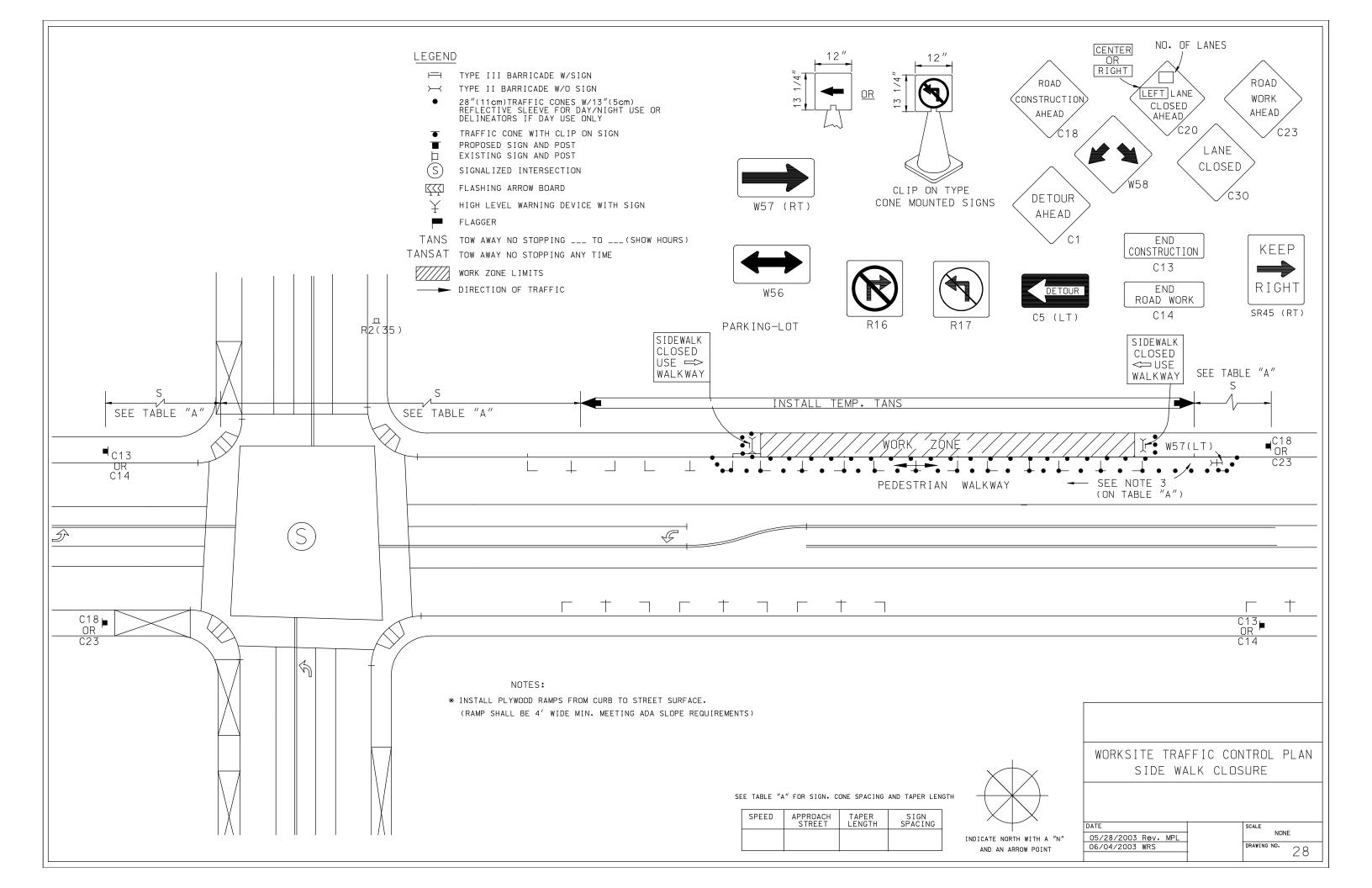


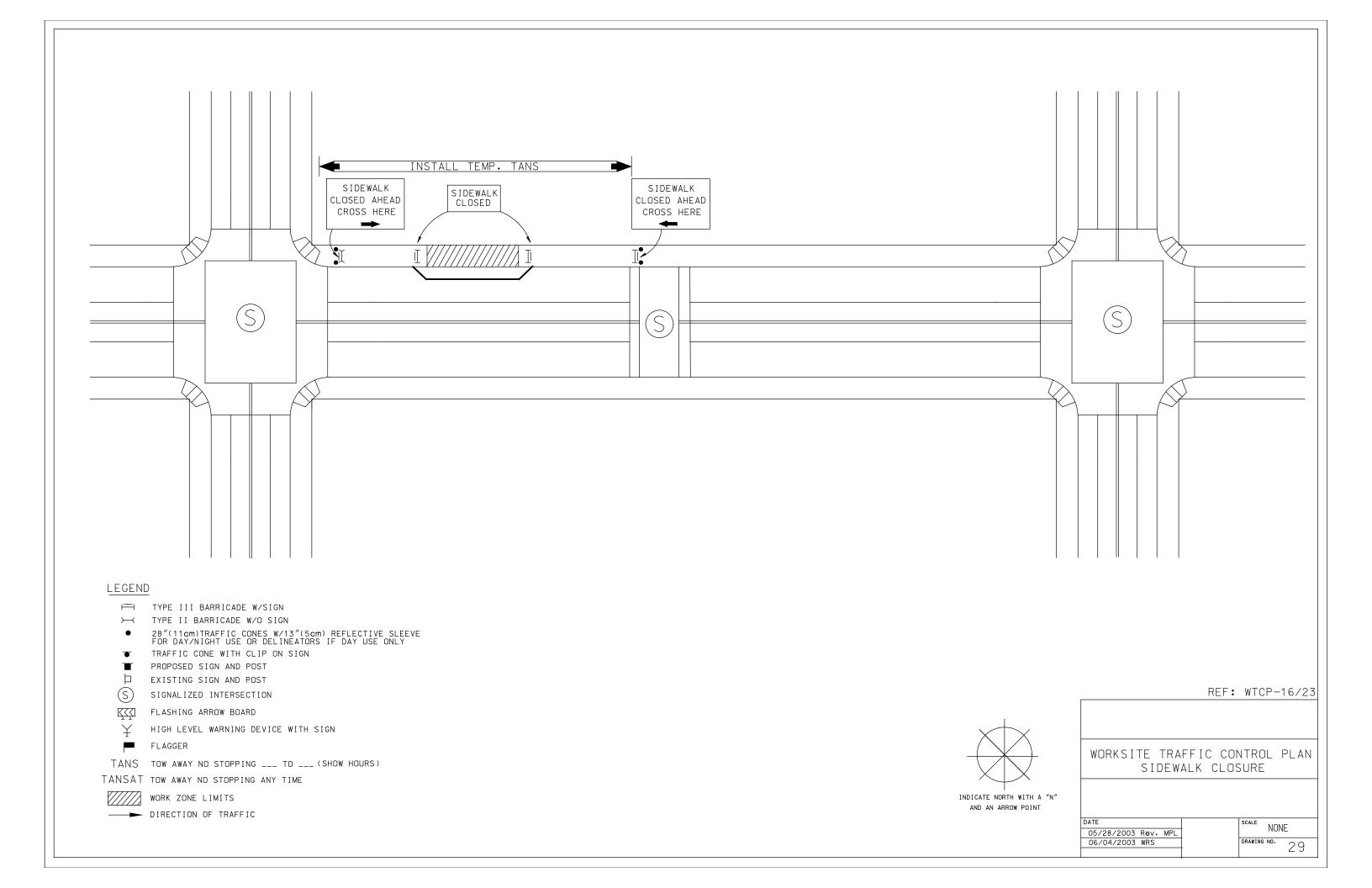


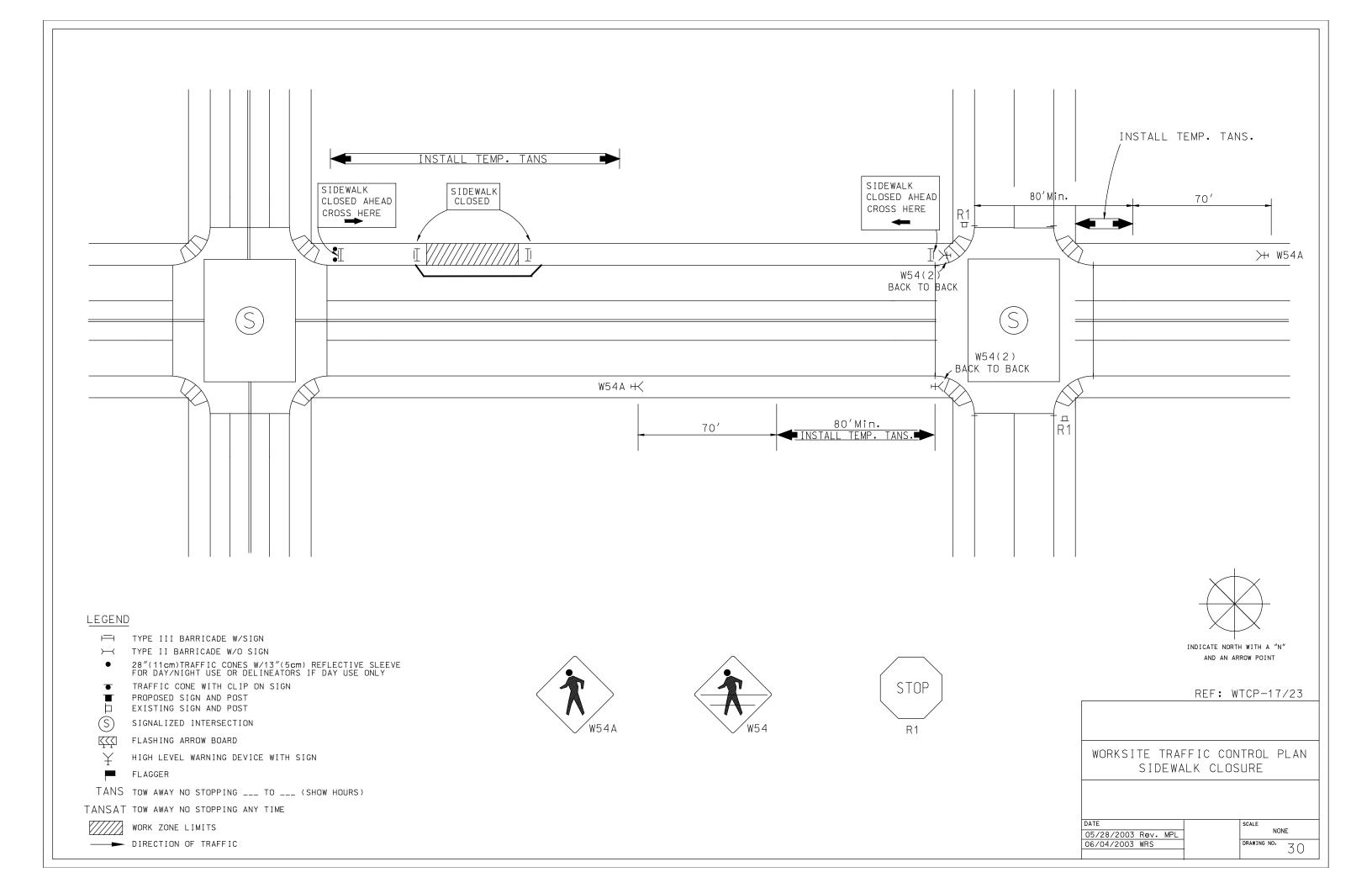


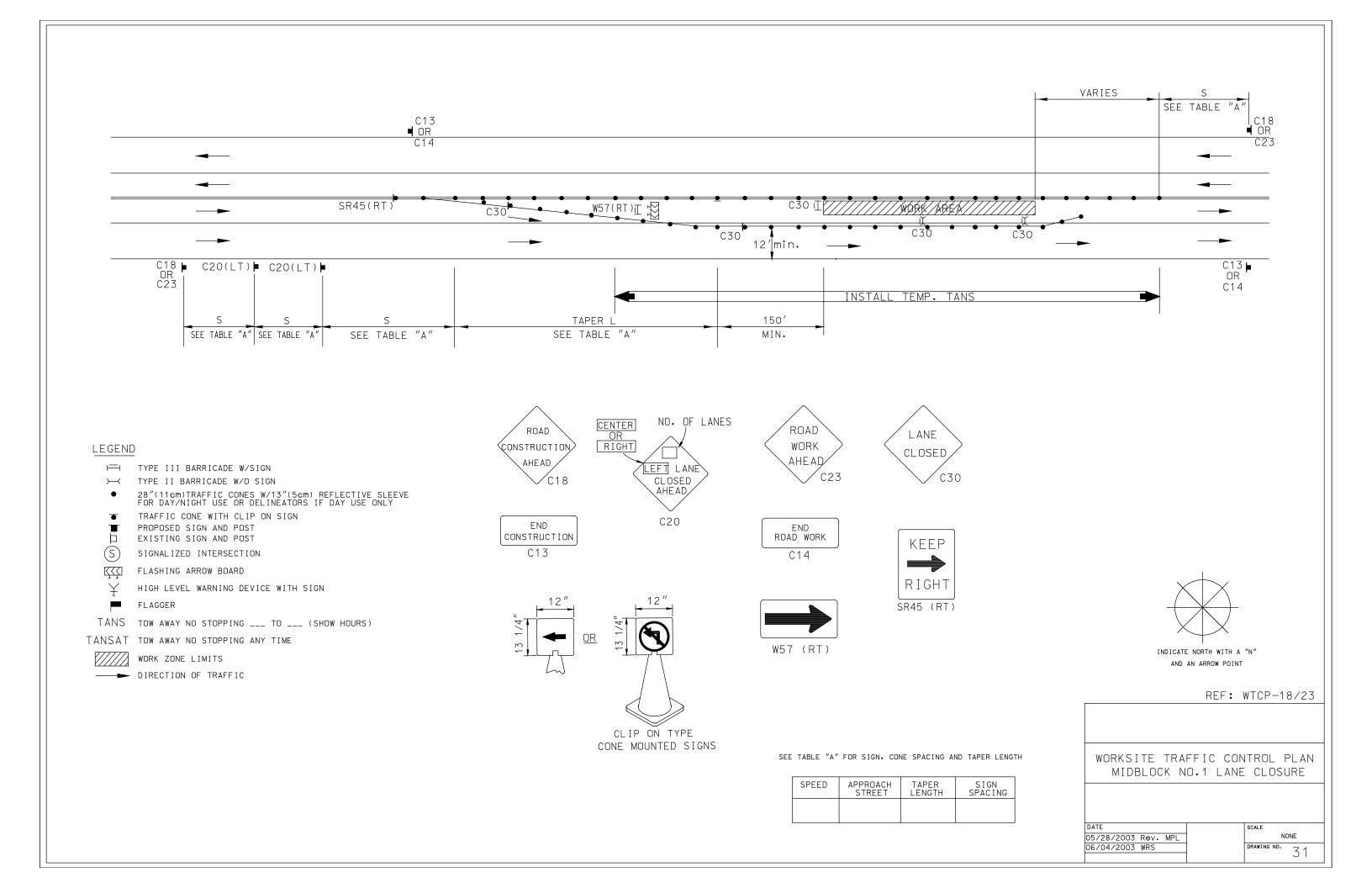


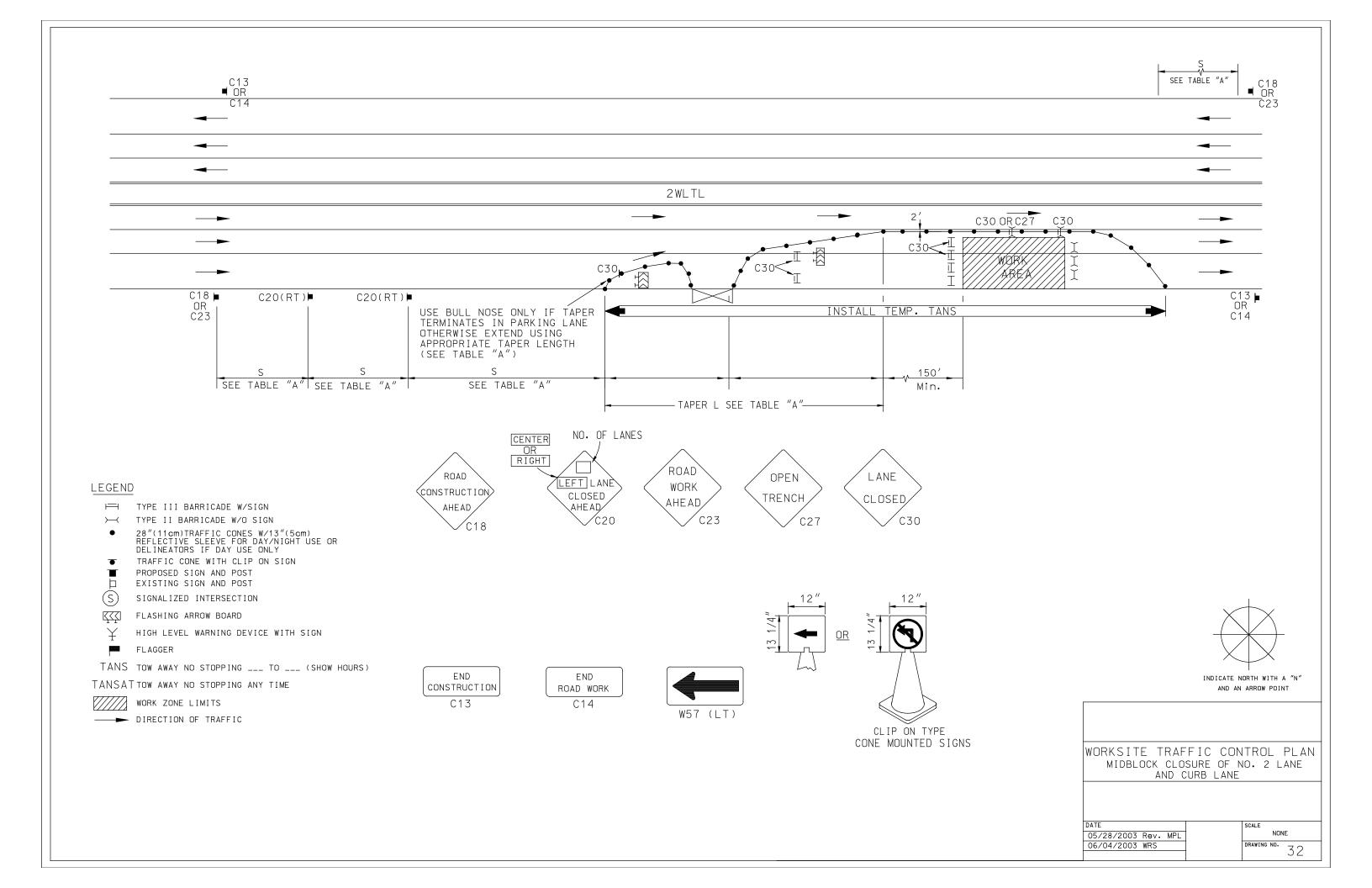


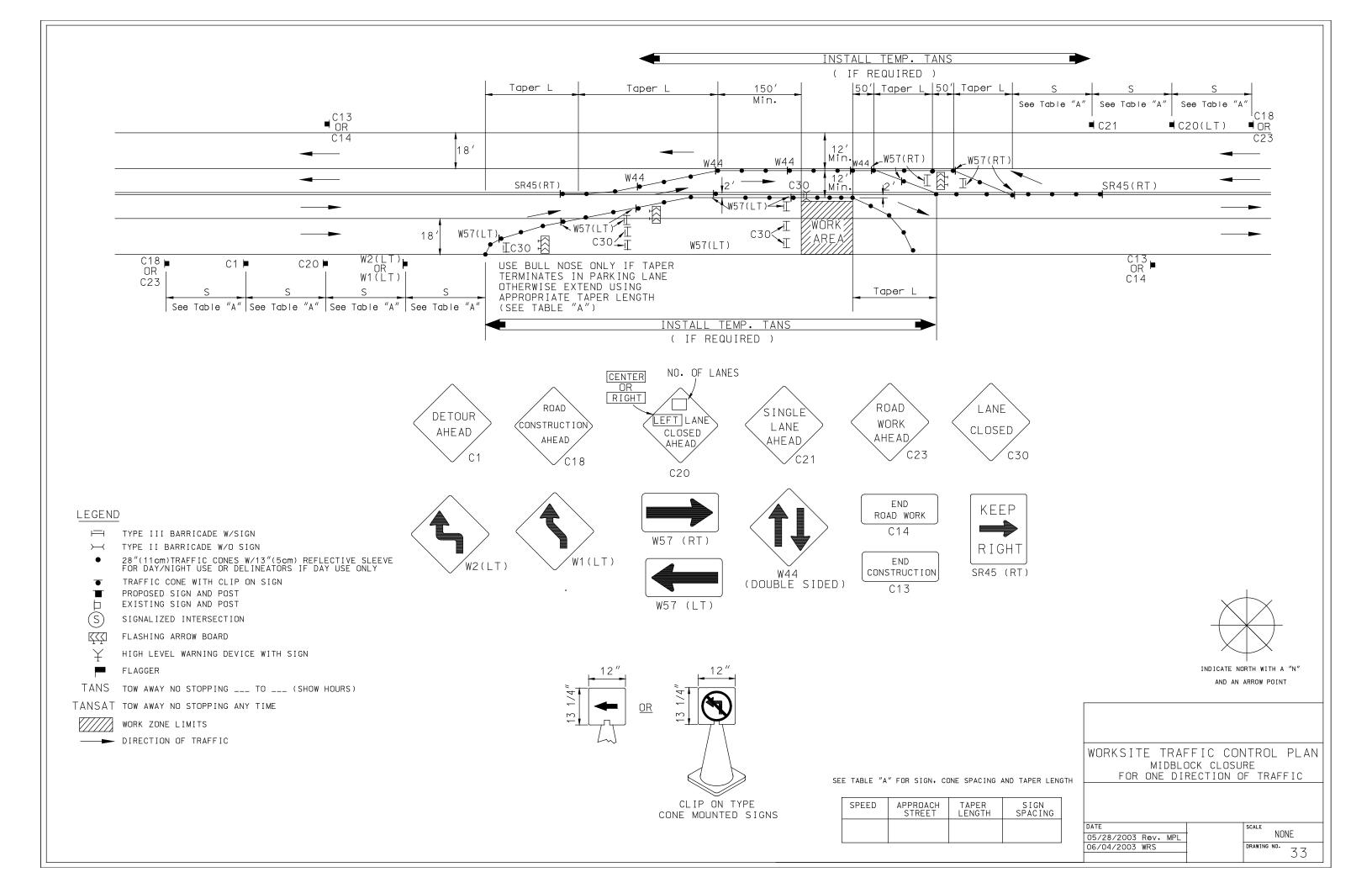


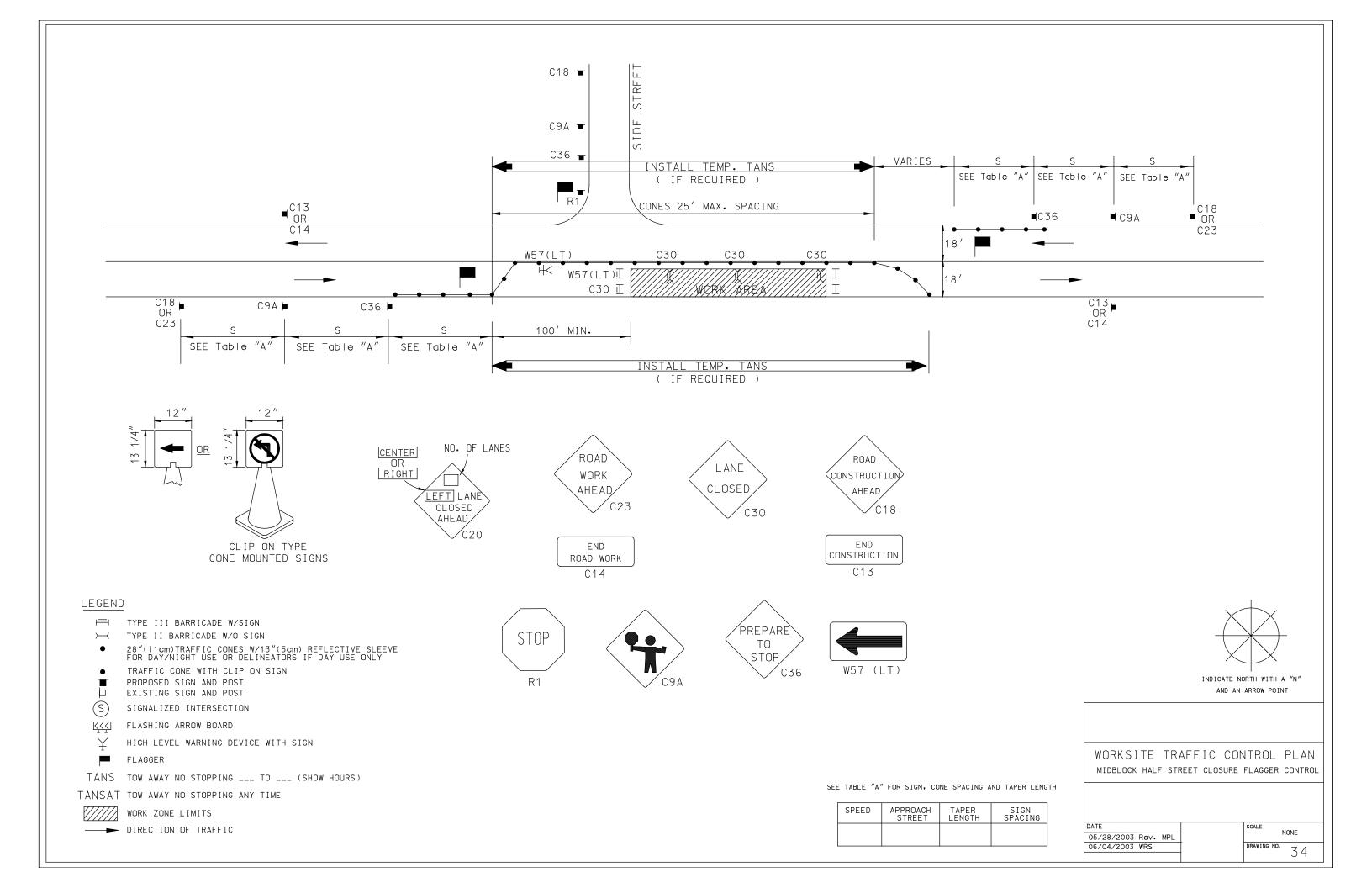


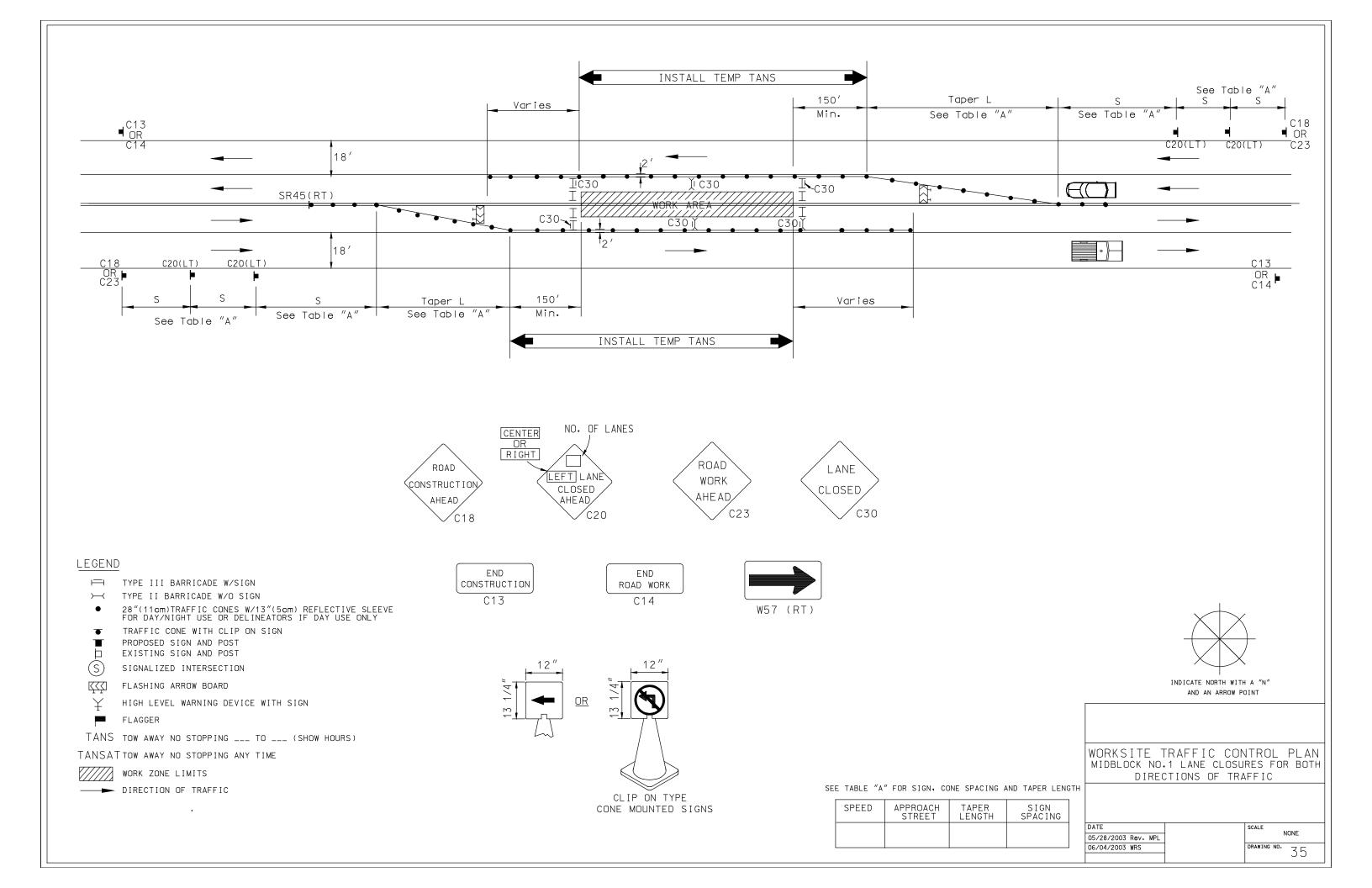












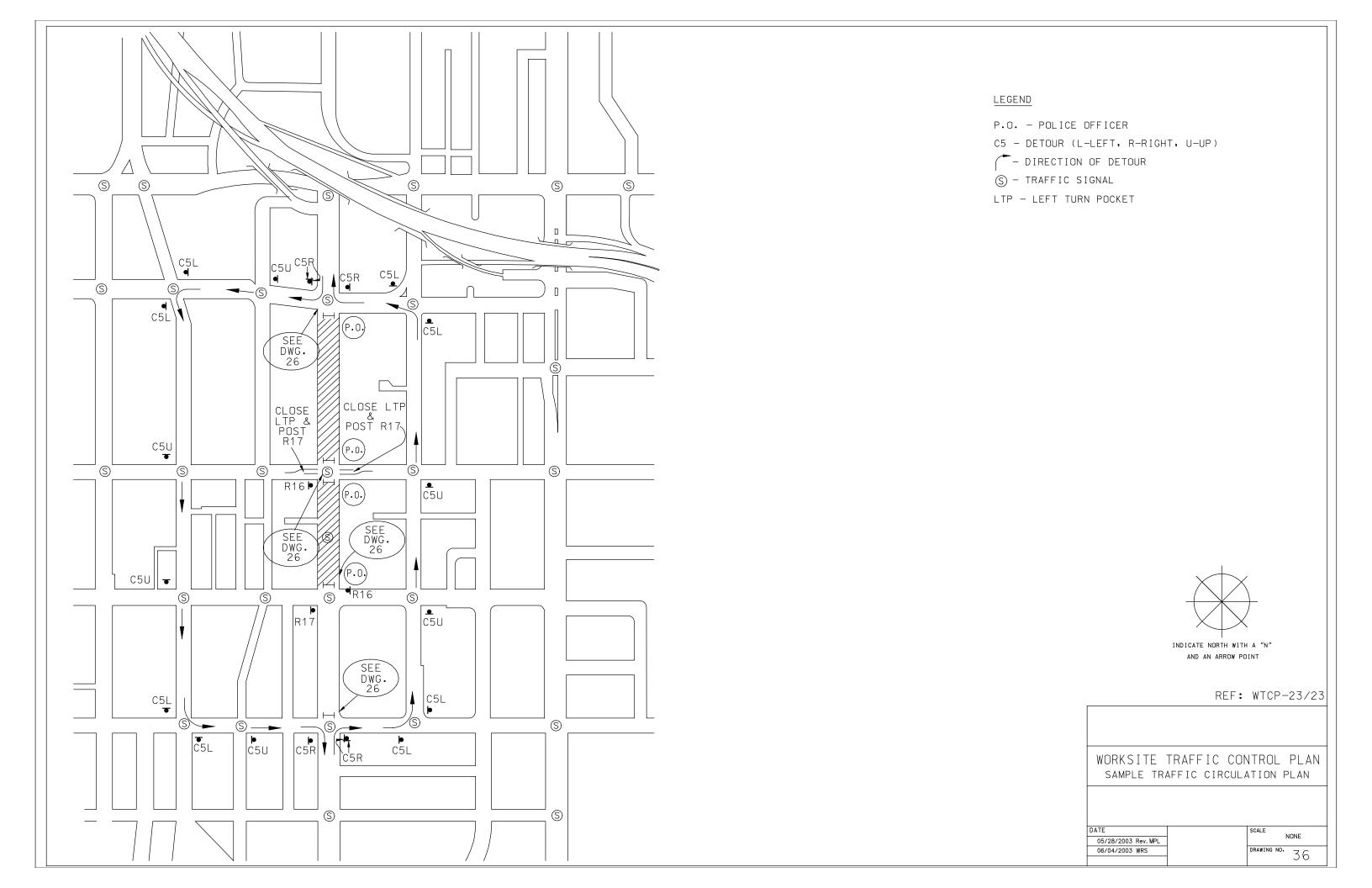


TABLE A MINIMUM RECOMMENDED DELINEATOR AND SIGN PLACEMENT

Table A-1
Taper Length Criteria for Temporary Traffic Control Zones

Type of Taper	Taper Length
<u>Upstream Tapers</u>	
Merging Taper	L MINIMUM
Shifting Taper	1/2 L Minimum
Shoulder Taper	1/3 L Minimum
Two-Way Traffic Taper	30 meters (100 feet) Maximum
Downstream Tapers	
(Use is optional)	30 meters (100 feet) Minimum

Formula for Taper Length 'L'

(For State Highways, see Traffic Control Systems in the Caltrans Standard Plans)

<u>English</u>	Metric *
$L = \frac{WS''}{60}$ (40 mph or less)	$L = \frac{WS''}{150}$ (65 km/h or less)
L = WS (45 mph or greater)	L = 2/3 WS (70 km/h or greater)
L = Taper Length in feet W = Width of Offset in feet S = Speed in mph	L = Taper Length in meters W = Width of Offset in meters S = Speed in km/h

^{*} The metric formulas result in larger values due to the rounding of the constant in converting the English formula to the metric formula.

Table A-2
Suggested Advance Warning Sign Spacing

Road Type	Distance Between Signs in Meters (Feet)					
	Α	В	С			
Urban-40 km/h (25 mph) or less	60 (200)	60 (200)	60 (200)			
Urban-50 km/h (30 mph) or more	100 (350)	100 (350)	100 (350)			
Rural	150 (500)	150 (500)	150 (500)			
Expressway/Freeway	300 (1000)	300 (1000)	300 (1000)			

Note: These are suggested distances for Advance Warning Signs, adequate sign distances and proximity to other roadway features may dictate the need for adjustments when placed.

Table A-3

Taper Length, Buffer Space and Advance Warning Sign Spacing
Use in Typical Applications Diagrams

English Measurements

Length of Taper 'L' in Feet

Longin	or rapor L	1111 000
Speed in		
Miles	Width of	Offset**
per Hour*	11 Feet	12 Feet
20	73	80
25	115	125
30	165	180
35	225	245
40	293	320
45	495	540
50	550	600
55	605	660
60	660	720
65	715	780
70	770	840
# D . 1	1 66 1	0.5.1

Metric Measurements

Length of Taper 'L' in Meters

Lengure	<u> </u>	Taper L I	11	IVICICIS	
Speed in					•
Kilometers		Width of			
per Hour*	3	.3 Meters	3	6 Meters	
30		20		22	
40		35		38	
50		55		60	
60		79		86	
70		154		168	
80		176		192	
90		198		246	
100		220		240	
110		242		264	

^{*} Posted speed, off-peak 85th percentille speed prior to starting, or the anticipated operation speed.

Length of

Longitudinal Buffer Space

Speed in	Length of				
Miles	Buffer Space				
per Hour*	in Feet				
20	35				
25	55				
30	85				
35	120				
40	170				
45	220				
50	280				
55	335				
60	415				
65	485				
70	585				

Length of Longitudinal Buffer Space

Longitud	ulliai bullei Space
Speed in	Length of
Kilometers	Buffer Space
per Hour*	in Kilometers
30	10
40	17
50	28
60	43
70	62
80	84
90	106
100	136
110	170

^{*} Posted speed, off-peak 85th percentille speed prior to starting, or the anticipated operation speed.

Advance Warning Sign Spacing 'S'

Advance Warning Oigh Opacing O							
Road Type	Distance Between Signs in Feet*						
Urban-25mph or less	200						
Urban-30mph or more	e 350						
Rural	500						
Expwy/Fwy	1000						

^{*} See Note.

Advance Warning Sign Spacing 'S'

Road Type	Distance Between Signs in Feet*
Urban-40km/h or less	60
Urban-50km/h or more	100
Rural	150
Expwy/Fwy	300

^{**} For other offset widths, apply the formula in table A-1.

Appendix I

1990 UNIFORM SIGN CHART

WARNING SIGNS

STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.
W1 (Lt./Rt.)	Reverse Curve (Arrow)	W1-4	W31	End	W14-1	W61A	Exit (Lane Drop)	. E11-1b
W2 (Lt./Rt.)	Reverse Turn (Arrow)		W30C	Right Exit	GESTASIA.	W61B	Only (Lane Drop)	
W3 (Lt./Rt.)	Turn (Arrow)		W31A	Road Ends Ft				
W4-14.1	Curve/Turn Arrow w/Advisory Speed		W32	Dip	W8-2	W61D	Exit Only w/Arrow (Lane Drop)	
	Tipping Truck w/Advisory Speed		W33	Rough Road	W8-8	W61E	Exit Only w/Two Arrows (Lane Drop)	*
	Curve (Arrow)	W1-2	W34	Vertical Clearance Arrows w/ ' "		W61F	Only w/Arrow (Lane Drop)	
W6				Miles Ahead		W61G	Only w/Two Arrows (Lane Drop)	
	T Intersection (Symbol)		W34B	Vertical Clearance'"	W12-2	W62	Farm Equipment (Symbol)	E11-5
W7A			W36	One Lane Bridge	W5-3	W63	Advance School Crossing (Symbol)	S1-1
	Y Intersection (Symbol)		W37	Bump	W8-1	W64	School Bus Stop Ft	S3-1
	Cross Road (Symbol)		W38	Slide Area		W65	School	. S4-3
	R. R. Advance Warning Crossroad (Symbol)		W41			W65-1	End School Zone	. S5-2
W10A	R. R. Advance Warning Side Road (Symbol).		W42	Slippery (Symbol)	W8-5	W66	School Crossing (Symbol)	. S2-1
W10B	R.R Advance Warning T-Intersection (Symbol).	W10-4	W43	lcy		W66A	School Xing	MES
W11 (Lt./Rt.)	Lane Reduction Transition		W44	Two-Way Traffic (Arrows)	W6-3	W67	Cattle (Symbol)	W11-4
W14 (Lt./Rt.)	Winding Road (Symbol)		W45	Equestrian (Symbol)	W11-7	W68	Deer (Symbol)	
W15	Road Narrows		W46	Exempt		W69	End Freeway Mi	110
W17	Stop Ahead (Symbol)		W46A	Exempt 2W-51-C		W70	Cross Traffic Ahead	AC.
W18			W47	Railroad Crossing (Symbol)	W10-1	W71	Next Miles	W7-3a
W19	Pavement Ends		W48	4 Tracks (R.R.)		W72		W13-2
W20	Weight Limit w/3 Truck Weights	R12-5	W49	Draw Bridge		W72A	Ramp MPH	W13-3
W20A	Weight Limit w/2 Truck Weights		W50	Rock Slide Area		W73 (Lt./Rt.)	Right Lane Must Exit	ip.
W23	Narrow Bridge		W51	Slow Trucks		W73A	Right Lane Must Turn Right	
W25	Divided Highway (Symbol)		W53	Not A through Street		W74 (Lt./Rt.)	Thru Traffic Merge Left/Right	
W26	Divided Highway Ends (Symbol)		W53A	No Outlet		W75 (Lt./Rt.)	Lane Ends Merge Left/Right	. W9-2
W28	Yield Ahead (Symbol)		W54	Ped Xing w/Crosswalk Lines (Symbol).		W79	Bicycle (Symbol)	. W11-1
W29	Hill (Symbol)		W54A	Pedestrian Crossing (Symbol)	W11-2	W80	Xing	*0
W29A	% Grade		W55	Flooded		W81	Chevron	. W1-8
W29B			W55B	Subject To Flooding			MARKERS	
W29C		W7-2b	W56	Double Head Arrow (Symbol)		Type K	Object Marker - Reflectors	Type 2
W29-1	Hill (Symbol)% Grade		W57 (Lt./Rt.)	Single Head Arrow (Symbol)	W1-6	Type L	Object Marker - Reflectors	Type 2
W30	Runaway Truck Ramp Mile		W58 (Rt. & Rt.)			Type N	Object Marker - Reflectors	Type 1
W30A	Runaway Truck Ramp w/Arrow		W59 (Lt./Rt.)	Merge Arrow	W4-1	Type P	Object Marker - Stripes	Type 3
W30B	Deep Gravel		W60 (Rt.)				Object Marker - Chevron	

1990 UNIFORM SIGN CHART

WARNING SIGNS

W₅

W4-22

W37

BUMP

W36

ONE

LANE

BRIDGE

W38

SLIDE

AREA

W4-14.1

W₁

W34A

3 MILES

AHEAD

W34B

VERTICAL CLEARANCE 13'-10"

W₂

W3

W6

W41

W42

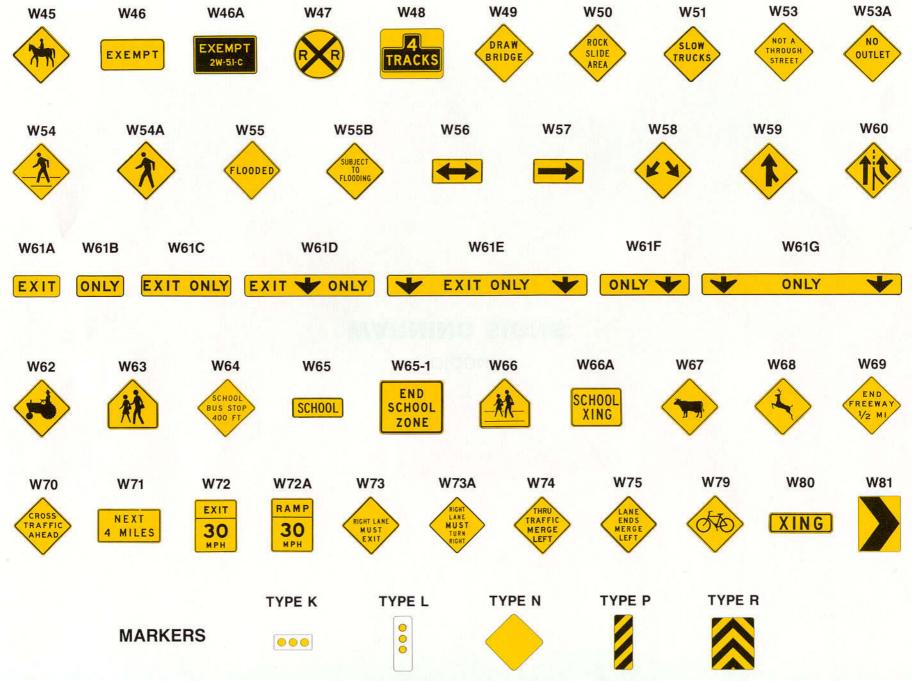
W43

W44

W8

W7A





Appendix II

R32B...... No/2 Hour Parking W/Times...... R7 Series

1990 UNIFORM SIGN CHART

REGULATORY SIGNS

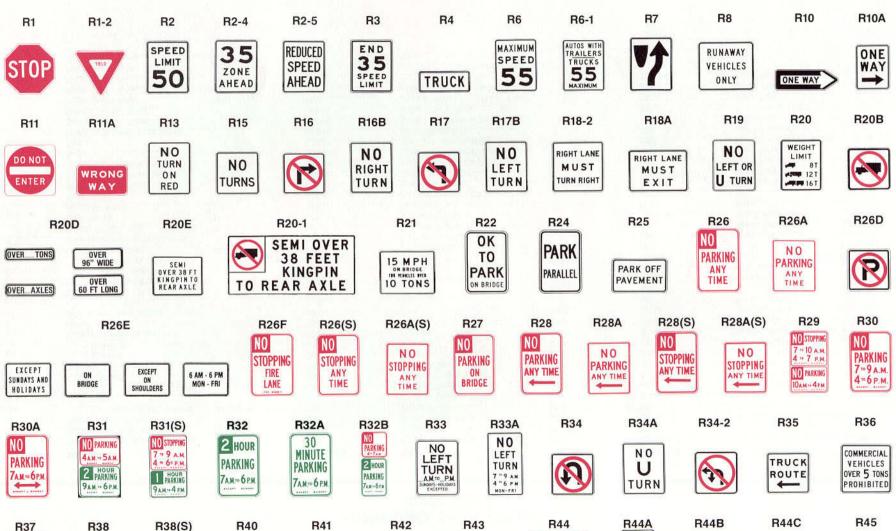
STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.
R1	Stop	R1-1	R33 (Lt./Rt.)	No Left Turn w/Times		R73-4	No U Turn w/Arrow	
R1-2			R33A			R74		
R2			R34			R75		
R2-4	Zone Ahead		R34A	No U Turn	Contractor	R76	Chains Required	
R2-5	Reduced Speed Ahead	R2-5a	R34-2	No Left/U Turn (Symbol)		R77	No Exceptions	
R3	End Speed Limit		R35 (Lt./Rt.)	Truck Route w/Arrow			End Chain Control	
R4	Truck		R36	Commercial Vehicles Weight Lim	it		. Autos, etc. OK/Carry Chains	
R6	Maximum Speed		R37	Tow-Away, etc. w/Times	R7 Series	R80-1	. 4-W Drive, etc. OK/Carry Chains	
R6-1	Autos w/Trailer, Trucks Ma	ax	R38	Tow-Away, etc. w/Times	R7 Series	R81	. Bike Lane w/Symbol	
R7	Keep Right (Symbol)	R4-7	R38(S)	Tow-Away, etc. w/Times	R7 Series	R81A	Begin	
R8	Runaway Vehicles Only		R40	Two-Way Traffic Ahead		R81B		
R10	One Way Arrow	R6-1	R41	Right Turn Only		R82	Bus Carpool Lane Ahead	
R10A			R42			R82A		
R11			R43			R83		
R11A	Wrong Way	R5-9	R44		R5-10a	R83A		
R13			R44A			R84		R3-12
R15		R3-3	R44B			R85		
R16			R44C				Bus/Carpools, etc. Only (Times)	
R16B			R45			R87		
	No Left Turn (Symbol)		R47				Left Lane Do Not Stop	11200
	No Left Turn		R48			R89		
	Right Lane Must Turn Right		R49			R89-1		
R18A			R50			R90		
R19	[18] [18] :		R51			R91		
R20			R52	Slower Traffic Use Turnouts		R91A		
	No Trucks (Symbol)		R53			R92 (Lt./Rt.)		
R20D			R53A			R93		
R20E			R53B			R94		
R20-1			R53C			R94A		
R21			R53E			R95		
R22			R54			R95A		110-0
	Park Parallel		R55	Yield To Uphill Traffic		R96	No Pedestrians (Symbol)	BQ.32
R25			R56			R96A		110-5a
R26			R57			R96B (Lt./Rt.)	Use Crosswalk w/Arrow	R9-3h
R26A			R58			R96C		110 00
R26D			R59 (Lt./Rt.)			R98		B6.30
R26E			R60A			R98A		
R26F			R61-1.1			R99		110-5
R26(S)			R61-36			R100		
R26A(S)			R62A					
R27			R62B			R100A		
R28 (Lt./Rt.)			R62C					
	No Parking Any Time w/Arrow.		R62D			R101		
						R102		
	No Stopping Any Time w/Arrov		R63	Do Not Pass		R102A		
	No Stopping Any Time w/Arrov		R64	Pass With Care				
R29			R65	Do Not Stop On Tracks		R103A		
R30			R66	Do Not Block Intersection		R104	Hazardous Material Prohibited (Symbol)	
	No Parking w/Times+Arrow		R67			R104A		
	No/2 Hour Parking w/Times		R67A	2 Way Turn Lane		R105	Hazardous Material Permitted (Symbol)	
H31 (S)	No Stopping/Parking w/Times	H/ Series	R68			R105A	Hazardous Material Premitted (Plate)	
H32	2 Hour Parking w/Times	H/ Series		Trucks OK w/Arrow			Annendiy II	
H32A	30 Minute Parking w/Times	R/ Series	R72	When Children Are Present	54-2		Appendix II	

R73-2..... U Turn, Left Turn Arrow.....

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
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1990 UNIFORM SIGN CHART

REGULATORY SIGNS



YAWA-WO

NO STOPPING

7 " 9 A M. 4 " 6 P.M.

1 HOUR PARKING

9 AM . 4 PM

TWO WAY

TRAFFIC

AHEAD

RIGHT

TURN

ONLY

LEFT

TURN

ONLY

PEDESTRIANS

PROHIBITED

NO PARKING

4AM-- 5AM

2 HOUR PARKING

9AM - 6PM

NO STOPPING

7=9AM 4=6PM

NO PARKING

9AM " 4PM

BIKE PATH

NO

MOTOR

VEHICLES

MOTORIZED

BICYCLES

BICYCLES

MOTOR-DRIVEN

CYCLES

MUST

EXIT /

BICYCLES

MUST /

EMERGENCY

PARKING

ONLY

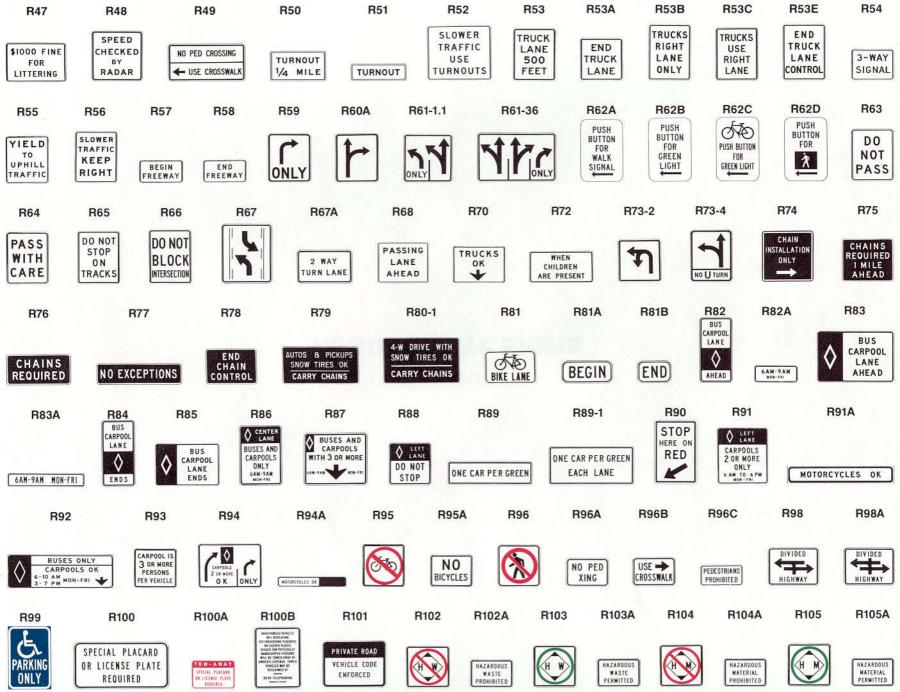
PEDESTRIANS

BICYCLES

MOTOR-DRIVEN

CYCLES

PROHIBITED



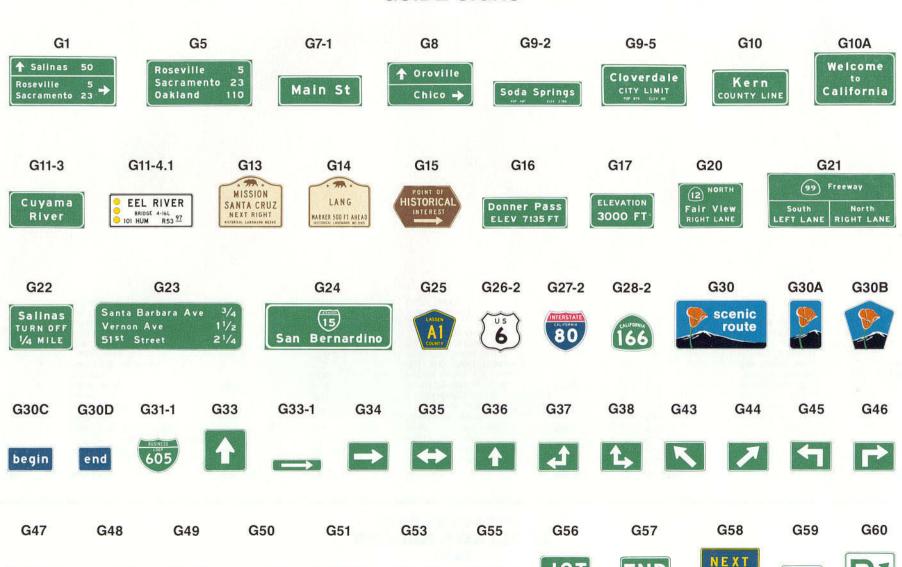
Appendix III

1990 UNIFORM SIGN CHART GUIDE SIGNS

STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.
G1-1 to -21	Destination w/Mileage (Arrow)	D1 Series	G43	Route Shield Arrow	M6-2	G77-1 to -9	Fwy.Interchg.2-Way Cross St. w/Arrows (Shield)	
G5-1 to -5	Destination w/Mileage	D2-3	G44	Route Shield Arrow	M6-2	G77A	Fwy.Interchg.Multilane Cross St./Arrow (Shield)	9
	Street/Road Name		G45	Route Shield Arrow	M5-1	G78-1 to -6	Fwy. Ramp Entrance w/Arrow (Shield)	
G8-1 to -24	Destination w/Arrow	D1 Series	G46	Route Shield Arrow	M5-1	G79	Rest Area Mile	D5-1
G9-2	Pop Elev		G47	Cardinal Direction/North	M3-1	G79A	Next Rest Mi	
G9-5	City Limit/Pop Elev		G48	Cardinal Direction/South	M3-3	G80	Rest Area w/Arrow	D5-2
G10	County Line		G49	Cardinal Direction/East	M3-2	G80A	Rest Area Plate w/Arrow	\$25(G)
	Welcome To California		G50	Cardinal Direction/West	M3-4	G81-4	Phone Water	
G11-3	River	13	G51	Temporary	M4-7	G81-24	Tourist Information	
G11-4.1	River/Br. No/County/Post Mile		G53	Alternate	M4-1	G81-52	L P Gas (Plate)	
G13	Historical Landmark Next Right		G55	Business	M4-3	G81-60	Weather/Radio Info. Tune Radio To	100
	Historical Marker Ft Ahead		G56	JCT	M2-1	G81-61	Emergency-Call 9-1-1	
G15	Point Of Historical Interest w/Arrow		G57	End	M4-6	G81-62	Emergency-Call 9-1-1	
G16	Pass / Elev Ft		G58	Next Right		G82	Freeway w/Arrow.	
G17	Elevation Ft		G59	То	M4-5	G83	St./Rd.1 Mile	
G20-1 to 8.1	Right Lane Designations w/Shield		G60	Parking w/Arrow		G84	Exit w/Arrow	1
G21-1 to -4	Freeway Designations w/Shield		G66-1	Gas (Symbol)		G85-1 to -6	Ramp Action Signs	
G22	Turn Off 1/4 Mile		G66-4	Food (Symbol)		G86-1 to -8	Next Right (Supplemental)	
	Interchange Sequence	E8-1	G66-7	Lodging (Symbol)		G87	Next Exit	E9
G24-1 to -6	Lane Assignment w/Shield/Arrow		G66-10	Camper (Symbol)		G90	Next Service Miles	77.
	County Route Shield	M1-5	G66-11	Methanol (Symbol)		G92	Freeway Entrance	
	U. S. Shield		G66-11A	Methanol (Plate)		G93 (Lt./Rt.)	Bike Route (Symbol)	
	Interstate Shield		G66-12	Diesel (Symbol)		G93A	Begin	
	State Shield		G66-13	Handicapped (Symbol)		G93B	End.	
G30	Scenic Route w/Poppy Logo		G66-16	Hospital w/Symbol		G94	Airport (Symbol)	1-5
G30A	Scenic State Route w/Poppy Logo		G66-17	Telephone (Symbol)		G94-3	Airport (Plate)	15.70
G30B	Scenic County Route w/Poppy Logo		G66-55	Large Truck Service (Symbol)		G95	Park & Ride w/Logo (Arrow)	D4-2
G30C	Begin		G66-56	Large Truck Terminal (Symbol)		G95A	Park & Ride w/Logo	
	End		G66-57	Highway Patrol (Symbol)		G95B	Park & Ride Next Right w/Logo	
G31-1	Interstate Business Loop Shield		G66-58	Brake Check Area		G96	Light Rail (Symbol)	1.1
	Service Symbol Arrow		G66-59	Brake Check Area w/Arrow		G96A	Trolley (Plate)	
	Service Symbol Arrow		G66-60	Brake Check Area Mile		G97	Train Station (Symbol)	
	Route Shield Arrow	M6-1	G68	Divided Road Miles Ahead		G97A-1	Amtrak (Plate)	
G35	Route Shield Arrow	M6-4	G69	Passing Lane Miles		G97A-2	Caltrain (Plate)	-
G36	Route Shield Arrow		G71	Nat'l Park Mile		G200 Series	Federal Recreational Symbols	
	Route Shield Arrow	M6-6	G72	State Park w/Arrow			- January Symbols	
	Route Shield Arrow	M6-6					Appendix III	

1990 UNIFORM SIGN CHART

GUIDE SIGNS



NORTH

SOUTH

EAST

WEST

TEMPORARY

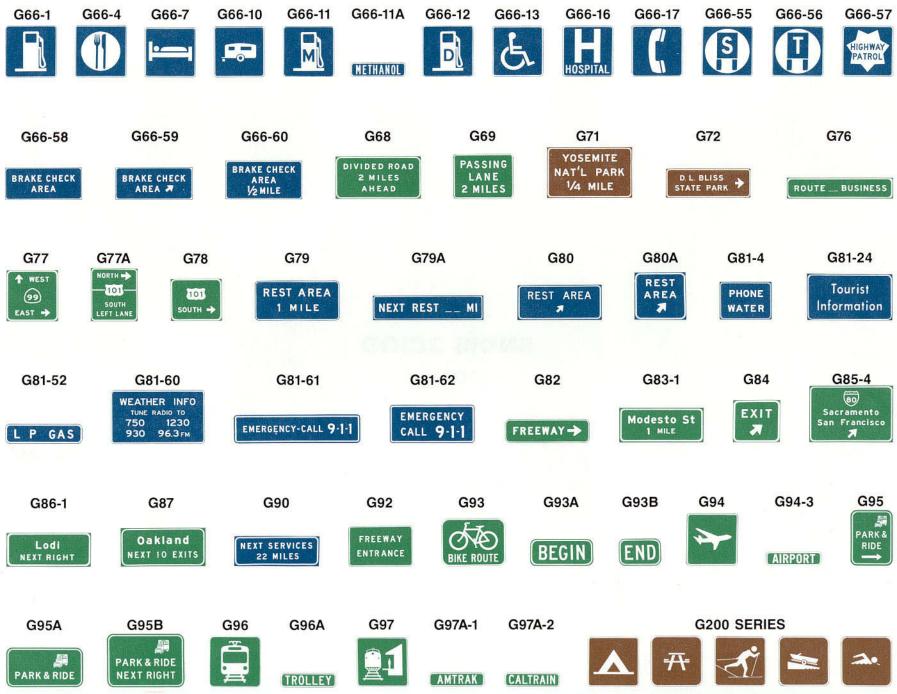
ALTERNATE

BUSINESS

TO

ARKING

RIGHT



Appendix IV

1990 UNIFORM SIGN CHART CONSTRUCTION SIGNS

STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO.	STATE NO.	MESSAGE	FED. NO
SS Vendor		10 mm/r. 212 m/r.	C16		0.0000000000000000000000000000000000000	C28A (Front)		
C1				Road Work/Speed Limit 25				
02	Road Closed					C28B (Back)		
C3				End 25 Speed Limit		C30		
C3A					and 10 (10 (10 (10 (10 (10 (10 (10 (10 (10	C30A		
C4	Fresh Oil			Road Closed Ahead		C31		
C5	. Detour w/Arrow	M4-10	C20	Lane Closed Ahead		C31A	No Shoulder	
C5A	. Detour	*********	C21	Single Lane Ahead		C32	End Survey Work	
C6	Loose Gravel	W8-7	C22B	Worker (Symbol)	W21-1a	C33	Blasting Zone 1000 Ft	W22-1
	. End Detour		C22C			C34		
C8	. Road Machinery Ahead		C23	Road Work Ahead (Diamond)		C35	End Blasting Zone	W22-3
C9A	. Flagger (Symbol)	W20-7a	C23A	Road Work Ahead (Square)		C36	Prepare To Stop	
C10	. Slide Ahead		C24	Shoulder Work Ahead (Diamond) W21-5	C37	Traffic Control/Wait For Pilot	Car
C11	. Road Construction/Next Mile	es G20-1	C24A	Shoulder Work Ahead (Square).		C38	Use Next Exit	
	Narrow Lane			Survey Crew		C39	Accident Ahead	
C13	. End Construction	G20-2		Pilot Car/Follow Me				Manage very market
	End Road Work			Open Trench			Appendix I	V

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION

UNIFORM SIGN CHART

CONSTRUCTION SIGNS

